

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.05.95
Test oil : ISO 4113

Combination No. : 0 402 946 302

Injection pump
Pump designation : PES6P120A720LS8514
EP type number : 0 412 926 210

Governor
Governor design. : RQV250...95QPA1209K
Governor no. : 0 421 815 972

Cust. part No. : 1369074

Customer-spec. information
Customer : SCANIA
Motor : DSC1206

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

A01

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 4.00
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50

Start of delivery blocking

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 825

Rack travel in mm : 13.45
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 375.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 250

Rack travel in mm : 4.60
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 22.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.67
Tolerance mm : ± 0.25

Rated speed rpm : 1017
guide sleeve
travel mm : 9.08
Tolerance mm : ± 0.25

Rated speed rpm : 661
guide sleeve
travel mm : 5.50
Tolerance mm : ± 0.25

Rated speed rpm : 302
guide sleeve
travel mm : 2.44
Tolerance mm : ± 0.25

Rated speed rpm : 352
guide sleeve
travel mm : 3.14
Tolerance mm : ± 0.25

Rated speed rpm : 390
guide sleeve
travel mm : 3.50
Tolerance mm : ± 0.25

Rated speed rpm : 1310
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1154

Rack travel in mm : 12.45
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 825
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 375.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 61.0
tolerance degree : ± 4.0

control lever
position degree : 115.0
tolerance degree : ± 4.0

rack travel mm : 11.70
Rated speed rpm : 995
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1110
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 72.0
tolerance degree : ± 4.0

control lever
position degree : 18.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.60
Tolerance mm : ± 0.30

Rated speed rpm : 150
CRT mm min. : > 5.65

Rated speed rpm : 275

TORQUE CONTROL

Rated speed rpm : 825
rack travel mm : 13.45
Tolerance mm : ± 0.05

Rated speed rpm : 650
rack travel mm : 12.55
Tolerance mm : ± 0.10

Rated speed rpm : 950
rack travel mm : 12.75
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 825
Pressure hPa : 1500
rack travel mm : 13.45
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 825
rack travel mm : 7.30
Tolerance mm : ± 0.20

Rated speed rpm : 825

Pressure hPa : 435
rack travel mm : 8.90
Tolerance mm : ± 0.15

Pressure hPa : 700
rack travel mm : 10.10
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 170
Check
speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 378.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 331.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : ± 15.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 197.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.20
Tolerance mm : \pm 0.50

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.60
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.03.94
Test oil : ISO 4113

Combination No. : 0 403 444 145

Injection pump
Pump designation : PES4MW100/320RS1199
EP type number : 0 413 404 112

Governor
Governor design. : RQV300...1100MW131K
Governor no. : 0 420 083 987

Cust. part No. :

Customer-spec. information
Customer : PERKINS
Motor : VME
Power KW : 74.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Overflow quantity min. l/h : 100

Test nozzle holder assembly : 1 688 901 101

Opening pressure bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 008

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Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : +- 1.0

Prestroke mm : 3.35
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 13.00
Tolerance mm : +- 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : +- 0.50
Check tolerance *NW : +- 0.75

Start of delivery blocking

*NW before FB : 48.50

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.95
Tolerance mm : +- 0.05

Del. quantity cm³/1000 strokes : 128.0

Tolerance cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Del. quantity
cm³/1000 strokes : 18.0

Tolerance
cm³/1000 strokes : +- 2.0

Check tolerance
cm³/1000S. : +- 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.78
Tolerance mm : +- 0.25

Rated speed rpm : 1156
guide sleeve
travel mm : 10.48
Tolerance mm : +- 0.25

Rated speed rpm : 738
guide sleeve
travel mm : 5.47
Tolerance mm : +- 0.25

Rated speed rpm : 312
guide sleeve
travel mm : 1.92
Tolerance mm : +- 0.25

Rated speed rpm : 362
guide sleeve
travel mm : 2.52
Tolerance mm : +- 0.25

Rated speed rpm : 410
guide sleeve
travel mm : 3.05
Tolerance mm : +- 0.25

Rated speed rpm : 1340

guide sleeve
travel mm : 13.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1170

Rack travel in mm : 16.50
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
hPa : 900

Del. quantity
cm³/1000 strokes : 128.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 117.0
tolerance degree : +- 4.0

rack travel mm : 11.90
Rated speed rpm : 1145
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1225
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 70.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.20
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 7.50

Rated speed rpm : 415

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.95
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 12.50
Tolerance mm : ± 0.10

Rated speed rpm : 500
rack travel mm : 11.30
Tolerance mm : ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 900
rack travel mm : 12.95
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 9.30
Tolerance mm : ± 0.10

Rated speed rpm : 1100

Pressure hPa : 225
rack travel mm : 11.15
Tolerance mm : ± 0.15

Pressure hPa : 150
rack travel mm : 9.75
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 230
Check
speed 1/min : < 250

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FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : 900
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 111.5
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 70.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 1145
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : ± 1.00
Del. quantity
cm³/1000 strokes : 85.0
Tolerance
cm³/1000 strokes : ± 7.0
Check tolerance
cm³/1000S. : ± 10.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000s. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000s. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.08.95
Test oil : ISO 4113

Combination No. : 0 403 474 008H

Injection pump
Pump designation : PES4MW100/720RS1181
EP type number : 0 413 404 107

Governor
Governor design. : RSV400...1000MW1A333
Governor no. : 0 420 085 118

Cust. part No. :

Customer-spec. information
Customer : LIEBHERR
Motor : D 914 T
Power KW : 106.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

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REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50

Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 10.65
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 137.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 400

Rack travel in mm : 6.25
 Tolerance mm : +- 0.10
 Del. quantity
 cm³/1000 strokes : 22.0
 Tolerance
 cm³/1000 strokes : +- 2.0
 Check tolerance
 cm³/1000S. : +- 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.65
 Tolerance mm : +- 0.35
 governor spring
 pre-tension
 click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 137.5
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

RATED SPEED

control lever
 position degree : 103.0
 tolerance degree : +- 4.0
 rack travel mm : 9.65
 Rated speed rpm : 1025

Tolerance 1/min : +- 5
 rack travel mm : 4.00
 Rated speed rpm : 1065
 Tolerance 1/min : +- 10
 rack travel mm : 1.00
 Tolerance mm : +- 0.70
 Rated speed rpm : 1175
 rack travel mm : 4.00
 Rated speed rpm : 1065

LOW IDLE

control lever
 position degree : 76.0
 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
 rack travel mm : 5.25

Testing:

Rated speed rpm : 400
 rack travel mm : 6.25
 Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1000
 rack travel mm : 10.65
 Tolerance mm : +- 0.05

Rated speed rpm : 500
 rack travel mm : 10.65
 Tolerance mm : +- 0.05

Rated speed rpm : 700
 rack travel mm : 10.65
 Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : -
 Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 130.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 141.5
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

BREAKAWAY

Rack travel in mm : 9.65
Rated speed rpm : 1025
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : ± 1.00
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 6.25
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed

Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.08.95
Test oil : ISO 4113
Combination No. : 0 403 474 021D
Injection pump
Pump designation : PES4MW100/720RS1181
EP type number : 0 413 404 107
Governor
Governor design. : RSV400...1000MW1A348
Governor no. : 0 420 085 183

Cust. part No. :

Customer-spec. information
Customer : LIEBHERR
Motor : D914T
Power KW : 106.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 049
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

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REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.05
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1000
Rack travel in mm : 10.65
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 137.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
 cm³/1000S. : 7.5
 Rated speed rpm : 400
 Rack travel in mm : 6.25
 Tolerance mm : ± 0.10
 Del. quantity
 cm³/1000 strokes : 22.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.65
 Tolerance mm : ± 0.35
 governor spring
 pre-tension
 click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
 Aneroid pressure
 hPa : 1250
 Del. quantity
 cm³/1000 strokes : 137.5
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

RATED SPEED

control lever
 position degree : 103.0

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tolerance degree : ± 4.0
 rack travel mm : 9.65
 Rated speed rpm : 1025
 Tolerance 1/min : ± 5
 rack travel mm : 4.00
 Rated speed rpm : 1065
 Tolerance 1/min : ± 10
 rack travel mm : 1.00
 Tolerance mm : ± 0.70
 Rated speed rpm : 1175
 rack travel mm : 4.00
 Rated speed rpm : 1065

LOW IDLE

control lever
 position degree : 76.0
 tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
 rack travel mm : 6.25

Testing:

Rated speed rpm : 400
 rack travel mm : 5.25
 Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1000
 rack travel mm : 10.65
 Tolerance mm : ± 0.05

Rated speed rpm : 500
 rack travel mm : 10.65
 Tolerance mm : ± 0.05

Rated speed rpm : 700
 rack travel mm : 10.65
 Tolerance mm : ± 0.05

ANEROID/ALTITUDE
 COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.20
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : 1250
Rated speed rpm : 500
rack travel mm : 10.65
Tolerance mm : +- 0.05

Rated speed rpm : 500

Pressure hPa : 420
rack travel mm : 10.30
Tolerance mm : +- 0.05

Pressure hPa : 460
rack travel mm : 10.55
Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1250
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 130.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : 1250
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 141.5
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 127.5
Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 9.65
Rated speed rpm : 1025
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : +- 1.00
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : +- 5.0
Check tolerance
cm³/1000S. : +- 8.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 6.25
Tolerance mm : +- 0.10
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.09.95
Test oil : ISO 4113

Combination No. : 0 403 476 096

Injection pump
Pump designation : PES6MW100/320RS1132
EP type number : 0 413 406 124

Governor
Governor design. : RSV650...750MW4A311
: -4
Governor no. : 0 420 085 161

Cust. part No. :

Customer-spec. information

Customer : PENTA
Motor : TD 61 AG
Power KW : 93.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 2.95
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 100.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
 Tolerance
 cm³/1000 strokes : 3.5

Check tolerance
 cm³/1000S. : 6.0

Rated speed rpm : 650

Rack travel in mm : 6.20
 Tolerance mm : ± 0.30

Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5

Spread
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
 Tolerance mm : ± 0.35

governor spring
 pre-tension
 click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure
 hPa : -

Del. quantity
 cm³/1000 strokes : 100.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.0

Spread
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 6.0

RATED SPEED

control lever
 position degree : 87.0
 tolerance degree : ± 4.0

rack travel mm : 10.80
 Rated speed rpm : 751
 Tolerance 1/min : ± 3

rack travel mm : 4.00
 Rated speed rpm : 781
 Tolerance 1/min : ± 8

rack travel mm : 1.00
 Tolerance mm : ± 0.70
 Rated speed rpm : 950

rack travel mm : 4.00
 Rated speed rpm : 813

LOW IDLE

control lever
 position degree : 82.0
 tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 650
 rack travel mm : 5.70

Testing:

Rated speed rpm : 650
 rack travel mm : 6.20
 Tolerance mm : ± 0.20

Rated speed rpm : 100
 CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 700
 rack travel mm : 10.85
 Tolerance mm : ± 0.05

BREAKAWAY

Rack travel in mm : 10.80
Rated speed rpm : 751
Tolerance 1/min : +- 3

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : +- 1.00
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 13.0

LOW IDLE

Rated speed rpm : 650
rack travel mm : 6.20
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.09.95
Test oil : ISO 4113

Combination No. : 0 403 476 102

Injection pump
Pump designation : PES6MW100/320RS1211
EP type number : 0 413 406 202

Governor
Governor design. : RSV650...750MW4A311
: -5
Governor no. : 0 420 085 166

Cust. part No. :

Customer-spec. information
Customer : PENTA
Motor : TID 61 AG
Power KW : 115.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : +- 1.0

Prestroke mm : 2.95
Tolerance mm : +- 0.05
test only : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.25
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 125.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000s. : +- 3.0

<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes :	3.5
<hr/>	
Check tolerance	
cm ³ /1000S. :	6.0
Rated speed rpm :	650
Rack travel in mm :	5.25
Tolerance mm :	+ 0.40
Del. quantity	
cm ³ /1000 strokes :	19.0
Tolerance	
cm ³ /1000 strokes :	+ 2.0
Check tolerance	
cm ³ /1000S. :	+ 4.5
Spread	
Tolerance	
cm ³ /1000 strokes :	3.5
Check tolerance	
cm ³ /1000S. :	5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm :	800
Rack travel in mm :	0.65
Tolerance mm :	+ 0.35
governor spring	
pre-tension	
click setting x :	6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	700
Aneroid pressure	
hPa :	-
Del. quantity	
cm ³ /1000 strokes :	125.0
Tolerance	
cm ³ /1000 strokes :	+ 1.0
Check tolerance	
cm ³ /1000S. :	+ 3.0
Spread	
Tolerance	
cm ³ /1000 strokes :	3.5
Check tolerance	
cm ³ /1000S. :	6.0

RATED SPEED

control lever	
position degree :	88.0
tolerance degree :	+ 4.0
rack travel mm :	10.20
Rated speed rpm :	751
Tolerance 1/min :	+ 3
rack travel mm :	4.00
Rated speed rpm :	781
Tolerance 1/min :	+ 8
rack travel mm :	1.00
Tolerance mm :	+ 0.70
Rated speed rpm :	1000
rack travel mm :	4.00
Rated speed rpm :	803

LOW IDLE

control lever	
position degree :	82.0
tolerance degree :	+ 4.0
Setting point w/out bumper spring	
Rated speed rpm :	650
rack travel mm :	4.25
Testing:	
Rated speed rpm :	650
rack travel mm :	5.25
Tolerance mm :	+ 0.25
Rated speed rpm :	100
CRT mm min. :	> 19.00

TORQUE CONTROL

Rated speed rpm :	700
rack travel mm :	11.25
Tolerance mm :	+ 0.05

BREAKAWAY

Rack travel in mm : 10.20
Rated speed rpm : 751
Tolerance 1/min : +- 3

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 185.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 13.0

LOW IDLE

Rated speed rpm : 650
rack travel mm : 5.25
Tolerance mm : +- 0.40
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.09.95
Test oil : ISO 4113

Combination No. : 0 403 476 108

Injection pump
Pump designation : PES6MW100/320RS1132
EP type number : 0 413 406 124

Governor
Governor design. : RSV325...1400MW2A314
: -3
Governor no. : 0 420 085 173

Cust. part No. :

Customer-spec. information

Customer : PENTA
Motor : TD 610M
Power KW : 147.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

A21

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 2.95
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 97.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

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Spread	
Tolerance	
cm ³ /1000 strokes :	3.5
<hr/>	
Check tolerance	
cm ³ /1000S. :	6.0
Rated speed rpm :	325
Rack travel in mm :	6.10
Tolerance mm :	+ 0.20
Del. quantity	
cm ³ /1000 strokes :	14.0
Tolerance	
cm ³ /1000 strokes :	+ 2.0
Check tolerance	
cm ³ /1000S. :	+ 4.5
Spread	
Tolerance	
cm ³ /1000 strokes :	3.5
Check tolerance	
cm ³ /1000S. :	5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm :	800
Rack travel in mm :	0.65
Tolerance mm :	+ 0.35
governor spring	
pre-tension	
click setting x :	6.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1000
Aneroid pressure	
hPa :	800
Del. quantity	
cm ³ /1000 strokes :	97.0
Tolerance	
cm ³ /1000 strokes :	+ 1.0
Check tolerance	
cm ³ /1000S. :	+ 3.0
Spread	
Tolerance	
cm ³ /1000 strokes :	3.5
Check tolerance	
cm ³ /1000S. :	6.0

RATED SPEED

control lever	
position degree :	108.0
tolerance degree :	+ 4.0
rack travel mm :	10.30
Rated speed rpm :	1280
Tolerance 1/min :	+ 5
rack travel mm :	4.00
Rated speed rpm :	1385
Tolerance 1/min :	+ 10
rack travel mm :	1.00
Tolerance mm :	+ 0.70
Rated speed rpm :	1575
rack travel mm :	4.00
Rated speed rpm :	1420

LOW IDLE

control lever	
position degree :	80.0
tolerance degree :	+ 4.0

Setting point w/out bumper spring

Rated speed rpm :	325
rack travel mm :	5.60

Testing:

Rated speed rpm :	325
rack travel mm :	6.10
Tolerance mm :	+ 0.10

rack travel mm :	2.00
Rated speed rpm :	620
Tolerance 1/min :	+ 30

Rated speed rpm :	100
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CRT mm min. :	> 19.00
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TORQUE CONTROL

Rated speed rpm :	1000
rack travel mm :	11.35
Tolerance mm :	+ 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1000
Pressure hPa : 800
rack travel mm : 11.35
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1000
rack travel mm : 10.15
Tolerance mm : \pm 0.05

Rated speed rpm : 1000

Pressure hPa : 420
rack travel mm : 11.15
Tolerance mm : \pm 0.15

Pressure hPa : 130
rack travel mm : 10.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 79.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.30
Rated speed rpm : 1280
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00

Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 13.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 6.10
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 14.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.09.95
Test oil : ISO 4113
Combination No. : 0 403 476 130
Injection pump
Pump designation : PES6MW100/32ORS1211
EP type number : 0 413 406 202
Governor
Governor design. : RSV300...900MW1A311
: -6
Governor no. : 0 420 085 224
Cust. part No. :

Customer-spec. information
Customer : PENTA
Motor : TWD 610 P

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 457 413 010
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : +- 1.0
Prestroke mm : 2.95
Tolerance mm : +- 0.05
test only : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900
Rack travel in mm : 9.70
Tolerance mm : +- 0.05
Del. quantity
cm³/1000 strokes : 98.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 3.0

<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes :	3.5
<hr/>	
Check tolerance	
cm ³ /1000S. :	6.0
Rated speed rpm :	300
Rack travel in mm :	6.00
Tolerance mm :	+ - 0.40
Del. quantity	
cm ³ /1000 strokes :	19.0
Tolerance	
cm ³ /1000 strokes :	+ - 2.0
Check tolerance	
cm ³ /1000S. :	+ - 4.5
Spread	
Tolerance	
cm ³ /1000 strokes :	3.5
Check tolerance	
cm ³ /1000S. :	5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm :	800
Rack travel in mm :	0.65
Tolerance mm :	+ - 0.35
governor spring	
pre-tension	
click setting x :	6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	900
Aneroid pressure	
hPa :	-
Del. quantity	
cm ³ /1000 strokes :	98.0
Tolerance	
cm ³ /1000 strokes :	+ - 1.0
Check tolerance	
cm ³ /1000S. :	+ - 3.0
Spread	
Tolerance	
cm ³ /1000 strokes :	3.5
Check tolerance	
cm ³ /1000S. :	6.0

RATED SPEED

control lever	
position degree :	106.0
tolerance degree :	+ - 4.0
rack travel mm :	8.70
Rated speed rpm :	920
Tolerance 1/min :	+ - 3
rack travel mm :	4.00
Rated speed rpm :	975
Tolerance 1/min :	+ - 8
rack travel mm :	1.00
Tolerance mm :	+ - 0.70
Rated speed rpm :	1050
rack travel mm :	4.00
Rated speed rpm :	1005

LOW IDLE

control lever	
position degree :	82.0
tolerance degree :	+ - 4.0
Setting point w/out bumper spring	
Rated speed rpm :	300
rack travel mm :	5.00
Testing:	
Rated speed rpm :	300
rack travel mm :	6.00
Tolerance mm :	+ - 0.25
Rated speed rpm :	100
CRT mm min. :	> 19.00

TORQUE CONTROL

Rated speed rpm :	900
rack travel mm :	9.70
Tolerance mm :	+ - 0.05

BREAKAWAY

Rack travel in mm : 8.70
Rated speed rpm : 920
Tolerance 1/min : +- 3

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 13.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.00
Tolerance mm : +- 0.40
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.09.95
Test oil : ISO 4113

Combination No. : 0 403 476 132

Injection pump
Pump designation : PES6MW100/32ORS1132
: -1
EP type number : 0 413 406 230

Governor
Governor design. : RSV325...1200MWOA359
: -1
Governor no. : 0 420 085 241

Cust. part No. :

Customer-spec. information
Customer : PENTA
Motor : TD 630ME
Power KW : 119.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 2.95
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.65
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 116.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : +- 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 325

Rack travel in mm : 6.00
Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 14.0

Tolerance
cm³/1000 strokes : +- 2.0

Check tolerance
cm³/1000S. : +- 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : +- 0.35

governor spring
pre-tension
click setting x : 3.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 116.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 96.0
tolerance degree : +- 4.0

rack travel mm : 11.60
Rated speed rpm : 1225
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1275
Tolerance 1/min : +- 10

rack travel mm : 1.00
Tolerance mm : +- 0.70
Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1295

LOW IDLE

control lever
position degree : 69.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 5.50

Testing:

Rated speed rpm : 325
rack travel mm : 6.00
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 490
Tolerance 1/min : +- 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 12.65
Tolerance mm : +- 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 700
Pressure hPa : 1000
rack travel mm : 12.65
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 700
rack travel mm : 10.55
Tolerance mm : \pm 0.05

Rated speed rpm : 700

Pressure hPa : 610
rack travel mm : 12.45
Tolerance mm : \pm 0.15

Pressure hPa : 270
rack travel mm : 10.75
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 77.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 11.60
Rated speed rpm : 1225
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00

Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 13.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 6.00
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 14.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.08.95
Test oil : ISO 4113
Combination No. : 0 401 430 015

Injection pump
Pump designation : PE12R120/520/6RS1510
EP type number : 0 411 420 002

Governor
Governor design. : RQV300...1150R7K
Governor no. : 0 421 415 007

Cust. part No. : 1 227 6584

Customer-spec. information
Customer : MWM
Motor : TBD 616

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 082
Inlet press. bar : 3.0
Tolerance bar : ± 0.1
Test nozzle holder assembly : 1 688 901 105
Opening pressure bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 4.95
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 21.00
Tolerance mm : ± 0.50
Firing order : 1- 2- 9-10- 5- 6
 : - 11- 12- 3- 4
 : - 7- 8
Phasing : 0-30-60-90-120-150
 : -180-210-240-270
 : -300-330
Tolerance : ± 0.30
Check tolerance °NW : ± 0.50
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150
Rack travel in mm : 14.40
Tolerance mm : ± 0.05
Del. quantity cm³/1000 strokes : 387.0
Tolerance cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : +- 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 300

Rack travel in mm : 4.80
Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 30.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Speed
Tolerance
cm³/1000 strokes : 10.0

Check tolerance
cm³/1000S. : 14.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 0.93
Tolerance mm : +- 0.20

Rated speed rpm : 1215
guide sleeve
travel mm : 9.95
Tolerance mm : +- 0.15

Rated speed rpm : 790
guide sleeve
travel mm : 4.81
Tolerance mm : +- 0.25

Rated speed rpm : 1430
guide sleeve
travel mm : 13.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1330

Rack travel in mm : 9.00
Tolerance mm : +- 1.50

B03

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150

Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 387.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 121.0
tolerance degree : +- 4.0

rack travel mm : 13.40
Rated speed rpm : 1195
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1295
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 71.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.80
Tolerance mm : +- 0.10

Rated speed rpm : 200

CRT mm min. : > 6.30

Rated speed rpm : 370

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 14.40
Tolerance mm : +- 0.05

Rated speed rpm : 750
rack travel mm : 11.60
Tolerance mm : +- 0.20

Rated speed rpm : 400
rack travel mm : 10.30
Tolerance mm : +- 0.30

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
Pressure hPa : 1500
rack travel mm : 14.40
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1150
rack travel mm : 7.90
Tolerance mm : +- 0.20

Rated speed rpm : 1150

Pressure hPa : 900
rack travel mm : 13.60
Tolerance mm : +- 0.20

Pressure hPa : 310
rack travel mm : 9.00
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 250
Check
speed 1/min : < 270

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 317.0

Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 200.0

Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1195
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.80
Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.09.95
Test oil : ISO 4113

Combination No. : 0 401 846 991

Injection pump
Pump designation : PE6P110A32ORS3108-1
EP type number : 0 411 816 757

Governor
Governor design. : RQV250...1100PA920
: -10
Governor no. : 0 421 814 106

Cust. part No. : 425823 P02 RELEASED

Customer-spec. information
Customer : VOLVO-TRUCK
Motor : THD 102 KB
Power KW : 212.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration
damper
(RoBo diaphragm) : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : +- 1.5

B06

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 3.05
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : +- 0.30
Check
tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 14.30
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 191.0

<hr/>	
Tolerance	
cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: ± 3.0
<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes	: 4.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 7.5
<hr/>	
Del. quantity	
cm ³ /1000 strokes	: 32.0
Tolerance	
cm ³ /1000 strokes	: ± 2.0
Check tolerance	
cm ³ /1000S.	: ± 4.5
Spread	
Tolerance	
cm ³ /1000 strokes	: 3.0
Check tolerance	
cm ³ /1000S.	: 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 250
guide sleeve	
travel mm	: 1.19
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1146
guide sleeve	
travel mm	: 7.81
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1081
guide sleeve	
travel mm	: 6.83
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 387
guide sleeve	
travel mm	: 2.96
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 437
guide sleeve	
travel mm	: 3.71
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 520

guide sleeve	
travel mm	: 4.67
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1370
guide sleeve	
travel mm	: 11.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1175
<hr/>	
Rack travel in mm	: 16.50
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm ³ /1000 strokes	: 191.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 3.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 4.0
Check tolerance	
cm ³ /1000S.	: 7.5

RATED SPEED

control lever	
position degree	: 63.0
tolerance degree	: ± 4.0
<hr/>	
control lever	
position degree	: 120.0
tolerance degree	: ± 4.0
<hr/>	
rack travel mm	: 13.30
Rated speed rpm	: 1135
Tolerance 1/min	: ± 5
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rack travel mm	: 4.00
Rated speed rpm	: 1240
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1350

LOW IDLE

control lever
position degree : 66.0
tolerance degree : +- 4.0

control lever
position degree : 11.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 5.70
Tolerance mm : +- 0.10

Rated speed rpm : 150
CRT mm min. : > 6.70

Rated speed rpm : 330

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 14.30
Tolerance mm : +- 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 14.30
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.15
Tolerance mm : +- 0.15

Rated speed rpm : 500

Pressure hPa : 980
rack travel mm : 3.80
Tolerance mm : +- 0.15

Pressure hPa : 240
rack travel mm : 0.25
Tolerance mm : +- 0.05

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FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 113.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 13.30
Rated speed rpm : 1135
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.15
Tolerance mm : +- 0.15

LOW IDLE

Del. quantity
cm³/1000 strokes : 32.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Speed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.09.95
Test oil : ISO 4113
Combination No. : 0 402 046 789
Injection pump
Pump designation : PES6P120A32ORS3139
EP type number : 0 412 026 718
Governor
Governor design. : RQV275...1000PA728
: -3
Governor no. : 0 421 813 657
Cust. part No. : CCEP 5070 -116

Customer-spec. information
Customer : RVI
Motor : MIDR 062045 H
Power KW : 227.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 2 417 413 071
Inlet press. bar : 2.5
Test nozzle holde
assembly : 1 688 901 019
Opening pressure
bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 075
Outside diameter : 8.0

B09

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0
Prestroke mm : 3.55
Tolerance mm : +- 0.05
test only : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000
Del. quantity
cm3/1000 strokes : 197.0
Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000S. : +- 4.0
Speed
Tolerance
cm3/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

 Del. quantity
 cm³/1000 strokes : 27.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1170

 Rack travel in mm : 16.50
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 197.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 119.0
 tolerance degree : ± 4.0

 rack travel mm : -1.00
 Rated speed rpm : 1080
 Tolerance 1/min : ± 5

 rack travel mm : -7.15

Rated speed rpm : 1195
 Tolerance 1/min : ± 15

 rack travel mm : -10.65
 Tolerance mm : ± 0.50
 Rated speed rpm : 1300

LOW IDLE

control lever
 position degree : 67.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
 rack travel mm : -5.30
 Tolerance mm : ± 0.15

 Rated speed rpm : 200

 CRT mm max. : < -3.80

 Rated speed rpm : 370

TORQUE CONTROL

Rated speed rpm : 600

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 500
 rack travel mm : -2.20
 Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 160
 rack travel mm : -1.70
 Tolerance mm : ± 0.10

Pressure hPa : 280
 rack travel mm : -0.75
 Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 195
Check
speed 1/min : < 215

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 197.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 104.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1080
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 14.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 27.0
Tolerance
cm³/1000 strokes : +- 2.0

B11

Check tolerance
cm³/1000S. : +- 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.09.95
Test oil : ISO 4113
Combination No. : 0 402 046 862
Injection pump
Pump designation : PES6P120A320RS3337
EP type number : 0 412 026 770
Governor
Governor design. : RQV300...1250PA1149K
Governor no. : 0 421 815 416
Cust. part No. : CCEP 5141A 66-218

Customer-spec. information
Customer : RVI
Motor : MIDR 06-02-26 V4
Power KW : 133.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 084
Inlet press. bar : 2.5
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 4.10
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250
Del. quantity
cm³/1000 strokes : 149.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance	
cm ³ /1000S.	: 9.0
Del. quantity	
cm ³ /1000 strokes	: 30.0
Tolerance	
cm ³ /1000 strokes	: ± 2.0
Check tolerance	
cm ³ /1000S.	: ± 5.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 1.31
Tolerance mm	: ± 0.20
Rated speed rpm	: 1346
guide sleeve	
travel mm	: 10.55
Tolerance mm	: ± 0.15
Rated speed rpm	: 905
guide sleeve	
travel mm	: 6.54
Tolerance mm	: ± 0.25
Rated speed rpm	: 381
guide sleeve	
travel mm	: 2.38
Tolerance mm	: ± 0.25
Rated speed rpm	: 431
guide sleeve	
travel mm	: 2.98
Tolerance mm	: ± 0.25
Rated speed rpm	: 530
guide sleeve	
travel mm	: 3.77
Tolerance mm	: ± 0.25
Rated speed rpm	: 1580
guide sleeve	
travel mm	: 13.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

B13

Rated speed rpm	: 1380
Rack travel in mm	: 10.50
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1250
Aneroid pressure	
hPa	: 1000
Del. quantity	
cm ³ /1000 strokes	: 149.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 297.0
tolerance degree	: ± 4.0
rack travel mm	: -1.00
Rated speed rpm	: 1330
Tolerance 1/min	: ± 5
rack travel mm	: -7.10
Rated speed rpm	: 1410
Tolerance 1/min	: ± 15
rack travel mm	: -10.60
Tolerance mm	: ± 0.50
Rated speed rpm	: 1550

LOW IDLE

control lever	
position degree	: 244.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm	: 300
rack travel mm	: -6.30
Tolerance mm	: ± 0.20
Rated speed rpm	: 200

CRT mm min. : < -5.20

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1250

Rated speed rpm : 850
rack travel mm : -1.35
Tolerance mm : +- 0.15

Rated speed rpm : 350
rack travel mm : -1.80
Tolerance mm : +- 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : -2.00
Tolerance mm : +- 0.20

Rated speed rpm : 1250

Pressure hPa : 160
rack travel mm : -1.40
Tolerance mm : +- 0.10

Pressure hPa : 280
rack travel mm : -0.35
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 240
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 850
Del. quantity
cm³/1000 strokes : 121.0

Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 1250
Del. quantity
cm³/1000 strokes : 106.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1330
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 108.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.09.95
Test oil : ISO 4113

Combination No. : 0 402 046 872

Injection pump
Pump designation : PES6P120A320RS3337
EP type number : 0 412 026 770

Governor
Governor design. : RQV300...1250PA1246K
Governor no. : 0 421 815 480

Cust. part No. : CCEP 5155 66-217

Customer-spec. information

Customer : RVI
Motor : MIDR 06-02-26 U4
Power KW : 111.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holder assembly : 1 688 901 101

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.10
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 11.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Del. quantity cm³/1000 strokes : 145.0

Tolerance cm³/1000 strokes : ± 1.0

Check tolerance cm³/1000S. : ± 4.0

Speed Tolerance cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 300
 Rack travel in mm : -6.00
 Tolerance mm : +- 0.20
 Del. quantity
 cm³/1000 strokes : 29.0
 Tolerance
 cm³/1000 strokes : +- 2.0
 Check tolerance
 cm³/1000S. : +- 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.31
 Tolerance mm : +- 0.20

Rated speed rpm : 1333
 guide sleeve
 travel mm : 10.40
 Tolerance mm : +- 0.15

Rated speed rpm : 900
 guide sleeve
 travel mm : 6.50
 Tolerance mm : +- 0.25

Rated speed rpm : 530
 guide sleeve
 travel mm : 3.77
 Tolerance mm : +- 0.25

Rated speed rpm : 1580
 guide sleeve
 travel mm : 13.50
 Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1400
 Rack travel in mm : 10.50
 Tolerance mm : +- 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 145.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 296.0
 tolerance degree : +- 4.0

rack travel mm : -1.00
 Rated speed rpm : 1325
 Tolerance 1/min : +- 5

rack travel mm : -6.80
 Rated speed rpm : 1420
 Tolerance 1/min : +- 15

rack travel mm : -10.30
 Tolerance mm : +- 0.50
 Rated speed rpm : 1550

LOW IDLE

control lever
 position degree : 242.0
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : -6.00
 Tolerance mm : +- 0.10

Rated speed rpm : 200

CRT mm min. : < -5.00

Rated speed rpm : 380

TORQUE CONTROL

Rated speed rpm : 1250
Rated speed rpm : 750
rack travel mm : -1.60
Tolerance mm : ± 0.10
Rated speed rpm : 650
rack travel mm : -1.90
Tolerance mm : ± 0.15
Rated speed rpm : 400
rack travel mm : -2.50
Tolerance mm : ± 0.20

START CUT-OUT

Rated speed rpm : < 225
Check
speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 94.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1325
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 112.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : -6.00
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 29.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.09.95
Test oil : ISO 4113

Combination No. : 0 402 066 706

Injection pump
Pump designation : PES6P120A12ORS3358
EP type number : 0 412 026 784

Governor
Governor design. : RSV475...1250P2A613
: -1
Governor no. : 0 421 833 505

Cust. part No. : 3927357

Customer-spec. information
Customer : CDC
Motor : 6BTA-590 ELITE
Power KW : 138.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50

Start of delivery blocking

*NW after s.o.d. : 6.75
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.80
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 150.0

<hr/>	
Tolerance	
cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: ± 3.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 4.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 7.5
<hr/>	
Rated speed rpm	: 475
<hr/>	
Rack travel in mm	: 5.60
Tolerance mm	: ± 0.30
Del. quantity	
cm ³ /1000 strokes	: 21.0
Tolerance	
cm ³ /1000 strokes	: ± 2.0
Check tolerance	
cm ³ /1000S.	: ± 4.5
Spreed	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20

governor spring	
pre-tension	
click setting x	: 4.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1250
Aneroid pressure	
hPa	: 1500
Del. quantity	
cm ³ /1000 strokes	: 150.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 3.0
Spreed	

B19

Tolerance	
cm ³ /1000 strokes	: 4.0
Check tolerance	
cm ³ /1000S.	: 7.5

RATED SPEED

control lever	
position degree	: 110.0
tolerance degree	: ± 4.0
<hr/>	
rack travel mm	: 9.80
Rated speed rpm	: 1295
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1390
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1500

LOW IDLE

control lever	
position degree	: 87.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm	: 475
rack travel mm	: 5.60
Tolerance mm	: ± 0.10
<hr/>	
rack travel mm	: 2.00
Rated speed rpm	: 570
Tolerance 1/min	: ± 30

TORQUE CONTROL

Rated speed rpm	: 1250
rack travel mm	: 10.80
Tolerance mm	: ± 0.05
<hr/>	
Rated speed rpm	: 750
rack travel mm	: 10.80
Tolerance mm	: ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 10.80
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.60
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 900
rack travel mm : 10.20
Tolerance mm : +- 0.20

Pressure hPa : 600
rack travel mm : 9.15
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 151.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 9.80
Rated speed rpm : 1295
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : +- 0.75
Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 25.0

LOW IDLE

Rated speed rpm : 475
rack travel mm : 5.60
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.07.95
Test oil : ISO 4113

Combination No. : 0 402 076 751

Injection pump
Pump designation : PES6P120A720RS3311
EP type number : 0 412 026 760

Governor
Governor design. : RSV400...1050POA603
Governor no. : 0 421 833 484

Cust. part No. :

Customer-spec. information
Customer : FNH-GEOTECH
Motor : P396
Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. L/h : 100
Tolerance L/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 10.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 132.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 400

Rack travel in mm : 5.00
Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 18.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 132.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 101.0
tolerance degree : +- 4.0

rack travel mm : 0.85
Tolerance mm : +- 0.55
Rated speed rpm : 1320

rack travel mm : 4.00
Rated speed rpm : 1160

LOW IDLE

control lever
position degree : 79.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.00

Testing:

Rated speed rpm : 400
rack travel mm : 4.50
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 530
Tolerance 1/min : +- 20

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 10.35
Tolerance mm : +- 0.05

Rated speed rpm : 750
rack travel mm : 11.20
Tolerance mm : +- 0.10

Rated speed rpm : 910
rack travel mm : 11.00
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.20
Tolerance mm : +- 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.00
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 900
rack travel mm : 10.85
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 163.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 115.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 0.50
Del. quantity
cm³/1000 strokes : 190.0

Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 5.00
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.09.95
Test oil : ISO 4113

Combination No. : 0 402 616 800

Injection pump
Pump designation : PE6P130A700RS7234
EP type number : 0 412 636 819

Governor
Governor design. :
Governor no. :

Cust. part No. : 865277-P02

Customer-spec. information
Customer : PENTA
Motor : TAMD 162 *

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.65
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 336.0

Tolerance
cm³/1000 strokes : ± 1.5

Check tolerance
cm³/1000S. : ± 5.0

Spreed
 Tolerance
 cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 10.0

Rated speed rpm : 300

Rack travel in mm : 3.85
 Tolerance mm : +- 0.20
 Del. quantity
 cm³/1000 strokes : 23.0
 Tolerance
 cm³/1000 strokes : +- 3.0
 Check tolerance
 cm³/1000S. : +- 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 336.0
 Tolerance
 cm³/1000 strokes : +- 1.5
 Check tolerance
 cm³/1000S. : +- 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

TORQUE CONTROL

Rated speed rpm : 700
 rack travel mm : 11.15
 Tolerance mm : +- 0.05

LOW IDLE

Rated speed rpm : 300
 rack travel mm : 3.85
 Tolerance mm : +- 0.20
 Del. quantity
 cm³/1000 strokes : 23.0
 Tolerance
 cm³/1000 strokes : +- 3.0
 Check tolerance
 cm³/1000S. : +- 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.07.95
Test oil : ISO 4113
Combination No. : 0 402 616 806
Injection pump
Pump designation : PE6P120A300LS7888
EP type number : 0 412 626 947

Governor
Governor design. :
Governor no. :

Cust. part No. : 04221425KZ0165-17

Customer-spec. information
Customer : KHD
Motor : BF6M1015C
Power kW : 300.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : +- 0.1
Test nozzle holder assembly : 1 688 901 105
Opening pressure bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 075
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0
Prestroke mm : 4.05
Tolerance mm : +- 0.05
test only : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 0.50
Firing order : 1- 6- 3- 5- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check tolerance °NW : +- 0.50
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 950
Rack travel in mm : 13.70
Tolerance mm : +- 0.05
Del. quantity cm³/1000 strokes : 350.0
Tolerance cm³/1000 strokes : +- 1.0
Check tolerance cm³/1000S. : +- 4.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 4.70
Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 25.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 350.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 13.70

Tolerance mm : +- 0.05

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 21.00

Del. quantity
cm³/1000 strokes : 200.0

Tolerance
cm³/1000 strokes : +- 20.0

Check tolerance
cm³/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.70

Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 25.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.09.95
 Test oil : ISO 4113
 Combination No. : 0 402 646 610
 Injection pump
 Pump designation : PE6P130A720RS7273
 : -10
 EP type number : 0 412 636 828
 Governor
 Governor design. : RQV250...900P4881-2
 Governor no. : 0 421 814 035
 Cust. part No. : 865567
 : -P04 21.11.94

Customer-spec. information
 Customer : PENTA
 Motor : TAD 1630 P

TEST BENCH REQUIREMENTS

Inlet line : 4.2
 Vibration damper
 (RoBo diaphragm) : 3.1
 Test oil inlet
 temp. °C : 40
 Tolerance °C : +- 2.0
 Overflow valve : 1 457 413 010
 Inlet press. bar : 1.5
 Tolerance bar : +- 0.1
 Test nozzle holde
 assembly : 1 688 901 105
 Opening pressure
 bar : 208.5
 Tolerance bar : +- 1.5

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Test lines : 1 680 750 089
 Outside diameter : 8.0
 x inside diameter : 3.0
 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
 Set equal delivery quant.
 per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
 Tolerance bar : +- 1.0
 Prestroke mm : 4.55
 Tolerance mm : +- 0.05
 test only : +- 0.10
 Rack travel in mm : 9.30
 Tolerance mm : +- 0.50
 Firing order : 1- 5- 3- 6- 2-
 : 4
 Phasing : 0-60-120-180-240
 : -300
 Tolerance : +- 0.30
 Check
 tolerance *NW : +- 0.75
 Start of delivery mark
 Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700
 Rack travel in mm : 13.00
 Tolerance mm : +- 0.05
 Del. quantity
 cm³/1000 strokes : 415.0

<hr/>	
Tolerance	
cm ³ /1000 strokes	: ± 1.5
<hr/>	
Check tolerance	
cm ³ /1000S.	: ± 5.0
<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes	: 7.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 11.0
<hr/>	
Del. quantity	
cm ³ /1000 strokes	: 20.0
Tolerance	
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 6.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 7.0
Check tolerance	
cm ³ /1000S.	: 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 250
guide sleeve	
travel mm	: 1.12
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 979
guide sleeve	
travel mm	: 8.54
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 315
guide sleeve	
travel mm	: 1.98
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 365
guide sleeve	
travel mm	: 2.47
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 660
guide sleeve	
travel mm	: 4.49
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1160

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guide sleeve	
travel mm	: 11.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1030
Rack travel in mm	: 11.00
Tolerance mm	: ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	: 1600
Del. quantity	
cm ³ /1000 strokes	: 415.0
Tolerance	
cm ³ /1000 strokes	: ± 1.5
Check tolerance	
cm ³ /1000S.	: ± 5.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 7.0
Check tolerance	
cm ³ /1000S.	: 11.0

RATED SPEED

control lever	
position degree	: 66.0
tolerance degree	: ± 4.0
<hr/>	
control lever	
position degree	: 122.0
tolerance degree	: ± 4.0
<hr/>	
rack travel mm	: 12.00
Rated speed rpm	: 965
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1040
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1180

LOW IDLE

control lever	
position degree	: 68.0

tolerance degree : +- 4.0
control lever
position degree : 15.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : +- 0.20

Rated speed rpm : 150
CRT mm min. : > 6.00

Rated speed rpm : 335

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.00
Tolerance mm : +- 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1600
rack travel mm : 13.00
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.15
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 1100
rack travel mm : 3.35
Tolerance mm : +- 0.15

Pressure hPa : 550
rack travel mm : 0.25
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -

CO2

Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 257.0
Tolerance
cm³/1000 strokes : +- 1.5
Check tolerance
cm³/1000S. : +- 5.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 965
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 15.00
Tolerance mm : +- 0.50

LOW IDLE

Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.09.95
Test oil : ISO 4113

Combination No. : 0 402 646 658

Injection pump
Pump designation : PE6P130A720RS7371
EP type number : 0 412 636 837

Governor
Governor design. : RQV250...900PA1215
Governor no. : 0 421 814 139

Cust. part No. : 3825482-PO2 V.02/95

Customer-spec. information
Customer : PENTA
Motor : TAMD 163 A
Power kW : 405.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Vibration damper
(RoBo diaphragm) : 3.1

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity min. l/h : 60
Tolerance l/h : ± 10.0

Test nozzle holder assembly : 1 688 901 105

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.70
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 7.40
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 12.70
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm ³ /1000 strokes :	363.0
<hr/>	
Tolerance	
cm ³ /1000 strokes :	+ 1.5
<hr/>	
Check tolerance	
cm ³ /1000S. :	+ 5.0
<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes :	9.0
<hr/>	
Check tolerance	
cm ³ /1000S. :	12.0
<hr/>	
Rated speed rpm :	250
<hr/>	
Rack travel in mm :	5.00
Tolerance mm :	+ 0.30
Del. quantity	
cm ³ /1000 strokes :	25.0
Tolerance	
cm ³ /1000 strokes :	+ 3.0
Check tolerance	
cm ³ /1000S. :	+ 6.0
Spread	
Tolerance	
cm ³ /1000 strokes :	5.0
Check tolerance	
cm ³ /1000S. :	8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	250
guide sleeve	
travel mm :	1.12
Tolerance mm :	+ 0.25
<hr/>	
Rated speed rpm :	959
guide sleeve	
travel mm :	8.22
Tolerance mm :	+ 0.25
<hr/>	
Rated speed rpm :	315
guide sleeve	
travel mm :	1.98
Tolerance mm :	+ 0.25
<hr/>	
Rated speed rpm :	365
guide sleeve	
travel mm :	2.47
Tolerance mm :	+ 0.25

Rated speed rpm :	650
guide sleeve	
travel mm :	4.40
Tolerance mm :	+ 0.25

Rated speed rpm :	1160
guide sleeve	
travel mm :	11.50
Tolerance mm :	+ 0.50

GUIDE SLEEVE POSITION

Rated speed rpm :	1030
Rack travel in mm :	11.00
Tolerance mm :	+ 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	900
Aneroid pressure	
hPa :	1500
Del. quantity	
cm ³ /1000 strokes :	363.0
Tolerance	
cm ³ /1000 strokes :	+ 1.5
Check tolerance	
cm ³ /1000S. :	+ 5.0
Spread	
Tolerance	
cm ³ /1000 strokes :	9.0
Check tolerance	
cm ³ /1000S. :	12.0

RATED SPEED

control lever	
position degree :	63.0
tolerance degree :	+ 4.0
<hr/>	
control lever	
position degree :	118.0
tolerance degree :	+ 4.0
<hr/>	
rack travel mm :	11.70
Rated speed rpm :	930
Tolerance 1/min :	+ 5
<hr/>	
rack travel mm :	4.00
Rated speed rpm :	1010
Tolerance 1/min :	+ 15
<hr/>	
rack travel mm :	0.50
Tolerance mm :	+ 0.50
Rated speed rpm :	1100

LOW IDLE

control lever
position degree : 71.0
tolerance degree : +- 4.0

control lever
position degree : 15.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 5.00
Tolerance mm : +- 0.30

Rated speed rpm : 150

CRT mm min. : > 6.50

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 12.70
Tolerance mm : +- 0.05

Rated speed rpm : 700
rack travel mm : 12.70
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.70
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 7.40
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 1000
rack travel mm : 4.80
Tolerance mm : +- 0.20

C05

Pressure hPa : 240
rack travel mm : 0.25
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 392.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : +- 1.5
Check tolerance
cm³/1000S. : +- 5.0

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 930
Tolerance 1/min : +- 5

LOW IDLE

Rated speed rpm : 250
rack travel mm : 5.00
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.09.95
Test oil : ISO 4113

Combination No. : 0 402 646 664

Injection pump
Pump designation : PE6P120A320LS7401
EP type number : 0 412 626 950

Governor
Governor design. : RQV325...1000PA1256K
Governor no. : 0 421 815 493

Cust. part No. :

Customer-spec. information
Customer : LIAZ
Motor : ML636E
Power KW : 175.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.80
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 12.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.80
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 215.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 325
 Rack travel in mm : 4.40
 Tolerance mm : +- 0.30
 Del. quantity
 cm³/1000 strokes : 38.0
 Tolerance
 cm³/1000 strokes : +- 3.0
 Check tolerance
 cm³/1000S. : +- 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
 guide sleeve
 travel mm : 1.47
 Tolerance mm : +- 0.20
 Rated speed rpm : 1057
 guide sleeve
 travel mm : 9.78
 Tolerance mm : +- 0.15
 Rated speed rpm : 831
 guide sleeve
 travel mm : 6.95
 Tolerance mm : +- 0.25
 Rated speed rpm : 550
 guide sleeve
 travel mm : 3.76
 Tolerance mm : +- 0.25
 Rated speed rpm : 1290
 guide sleeve
 travel mm : 13.50
 Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1140
 Rack travel in mm : 12.80
 Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
 Aneroid pressure
 hPa : 1500
 Del. quantity
 cm³/1000 strokes : 215.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 65.0
 tolerance degree : +- 4.0
 control lever
 position degree : 119.0
 tolerance degree : +- 4.0
 rack travel mm : 12.80
 Rated speed rpm : 1045
 Tolerance 1/min : +- 5
 rack travel mm : 4.00
 Rated speed rpm : 1145
 Tolerance 1/min : +- 15
 rack travel mm : 0.50
 Tolerance mm : +- 0.50
 Rated speed rpm : 1200

LOW IDLE

control lever
 position degree : 69.0
 tolerance degree : +- 4.0
 control lever
 position degree : 15.0
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 325
 rack travel mm : 4.40
 Tolerance mm : +- 0.10

Rated speed rpm : 225
CRT mm min. : > 6.00
Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 13.80
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : 13.45
Tolerance mm : ± 0.20

Rated speed rpm : 600
rack travel mm : 12.85
Tolerance mm : ± 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1000
Pressure hPa : 1500
rack travel mm : 13.80
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1000
rack travel mm : 11.15
Tolerance mm : ± 0.10

Rated speed rpm : 1000

Pressure hPa : 260
rack travel mm : 11.70
Tolerance mm : ± 0.20

Pressure hPa : 370
rack travel mm : 13.20
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 255
Check
speed 1/min : < 265

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 191.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.80
Rated speed rpm : 1045
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 300.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 4.40
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 38.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet.



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.09.95
Test oil : ISO 4113

Combination No. : 0 402 646 744

Injection pump
Pump designation : PE6P120A320LS7872
EP type number : 0 412 626 912

Governor
Governor design. : RQV300...1050PA1259
Governor no. : 0 421 814 169

Cust. part No. : 04221532 KY 0165-17

Customer-spec. information

Customer : KHD
Motor : BF6M1015C
Power kW : 270.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 6- 3- 5- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.70
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 328.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000s. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.00
Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.24
Tolerance mm : +- 0.20

Rated speed rpm : 1098
guide sleeve
travel mm : 10.02
Tolerance mm : +- 0.15

Rated speed rpm : 860
guide sleeve
travel mm : 5.59
Tolerance mm : +- 0.25

Rated speed rpm : 560
guide sleeve
travel mm : 3.24
Tolerance mm : +- 0.25

Rated speed rpm : 1154
guide sleeve
travel mm : 12.00
Tolerance mm : +- 0.25

Rated speed rpm : 1230
guide sleeve
travel mm : 13.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1118

Rack travel in mm : 12.70
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure
hPa : 1700

Del. quantity
cm³/1000 strokes : 328.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 121.0
tolerance degree : +- 4.0

rack travel mm : 12.70
Rated speed rpm : 1085
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1125
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1280

LOW IDLE

control lever
position degree : 77.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.00
Tolerance mm : +- 0.10

Rated speed rpm : 200
CRT mm min. : > 8.00
Rated speed rpm : 345

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 13.70
Tolerance mm : +- 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1700
rack travel mm : 13.70
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 8.70
Tolerance mm : +- 0.20

Rated speed rpm : 400

Pressure hPa : 450
rack travel mm : 10.00
Tolerance mm : +- 0.10

Pressure hPa : 1000
rack travel mm : 12.50
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 12.70
Rated speed rpm : 1085
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.00
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.06.95
Test oil : ISO 4113
Combination No. : 0 402 646 951
Injection pump
Pump designation : PE6P120A720RS7188
: -10
EP type number : 0 412 626 924
Governor
Governor design. : RQ200...950PA745-3
Governor no. : 0 421 801 579

Cust. part No. : 1332288

Customer-spec. information
Customer : SCANIA
Motor : DSC 11 77

TEST BENCH REQUIREMENTS

Inlet line : 4.2
Vibration
damper
(RoBo diaphragm) : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 2.5
Tolerance bar : ± 0.1
Test nozzle holde
assembly : 1 688 901 104
Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 4.45
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 11.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 171.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 225

Rack travel in mm : 4.80
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 14.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 225
guide sleeve
travel mm : 1.13
Tolerance mm : +- 0.20

Rated speed rpm : 1006
guide sleeve
travel mm : 4.90
Tolerance mm : +- 0.15

Rated speed rpm : 930
guide sleeve
travel mm : 4.50
Tolerance mm : +- 0.10

Rated speed rpm : 343
guide sleeve
travel mm : 2.76
Tolerance mm : +- 0.10

Rated speed rpm : 520

guide sleeve
travel mm : 4.50
Tolerance mm : +- 0.10

Rated speed rpm : 1045
guide sleeve
travel mm : 5.50
Tolerance mm : +- 0.10

Rated speed rpm : 1360
guide sleeve
travel mm : 11.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 500

Rack travel in mm : 20.00
Tolerance mm : +- 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 171.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 44.0
tolerance degree : +- 4.0

control lever
position degree : 98.0
tolerance degree : +- 4.0

rack travel mm : 10.10
Rated speed rpm : 995
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1120
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 64.0
tolerance degree : ± 4.0

control lever
position degree : 9.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 225
rack travel mm : 4.80
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : ± 20

Rated speed rpm : 125

CRT mm min. : > 5.80

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 11.15
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 11.15
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.15
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.50
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 280
rack travel mm : 9.90
Tolerance mm : ± 0.15

Pressure hPa : 420
rack travel mm : 10.75
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 171.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 122.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.10
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.40
Tolerance mm : ± 0.20
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 225

rack travel mm : 4.80
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 14.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.05.95
Test oil : ISO 4113

Combination No. : 0 402 646 990

Injection pump
Pump designation : PE6P130A720RS7225
EP type number : 0 412 636 817

Governor
Governor design. : RQV300...950PA975
: -2K
Governor no. : 0 421 815 310

Cust. part No. :

Customer-spec. information
Customer : IVECO-FRANCE
Motor : 8210.42.369

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 12.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 12.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 269.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes :	5.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 8.0
<hr/>	
Del. quantity	
cm ³ /1000 strokes :	29.0
Tolerance	
cm ³ /1000 strokes :	+ 3.0
Check tolerance	
cm ³ /1000S.	: + 7.0
Spreed	
Tolerance	
cm ³ /1000 strokes :	8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm :	1175
Rack travel in mm :	11.00
Tolerance mm :	+ 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	950
Aneroid pressure	
hPa :	1000
Del. quantity	
cm ³ /1000 strokes :	269.0
Tolerance	
cm ³ /1000 strokes :	+ 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes :	5.0
Check tolerance	
cm ³ /1000S.	: 8.0

RATED SPEED

control lever	
position degree :	116.0
tolerance degree :	+ 4.0
rack travel mm :	11.10

Rated speed rpm :	995
Tolerance 1/min :	+ 5
rack travel mm :	4.00
Rated speed rpm :	1095
Tolerance 1/min :	+ 15
rack travel mm :	0.50
Tolerance mm :	+ 0.50
Rated speed rpm :	1200
rack travel mm :	4.00

LOW IDLE

control lever	
position degree :	65.0
tolerance degree :	+ 4.0

Testing:

Rated speed rpm :	300
rack travel mm :	4.70
Tolerance mm :	+ 0.10
Rated speed rpm :	100
CRT mm min. :	> 6.20
Rated speed rpm :	400

TORQUE CONTROL

Rated speed rpm :	950
rack travel mm :	12.15
Tolerance mm :	+ 0.05
Rated speed rpm :	700
rack travel mm :	12.15
Tolerance mm :	+ 0.10
Rated speed rpm :	550
rack travel mm :	12.15
Tolerance mm :	+ 0.10
Rated speed rpm :	350
rack travel mm :	11.60
Tolerance mm :	+ 0.15

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm :	950
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Pressure hPa : 1000
rack travel mm : 12.15
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 950
rack travel mm : 8.80
Tolerance mm : +- 0.20

Rated speed rpm : 950

Pressure hPa : 480
rack travel mm : 11.45
Tolerance mm : +- 0.10

Pressure hPa : 300
rack travel mm : 9.85
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 240
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 271.0
Tolerance
cm³/1000 strokes : +- 4.0
Check tolerance
cm³/1000S. : +- 7.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 279.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 161.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 11.10
Rated speed rpm : 995
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 24.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 29.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 7.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.08.95
Test oil : ISO 4113

Combination No. : 0 402 648 602

Injection pump
Pump designation : PE8P110A320RS7398
EP type number : 0 412 618 800

Governor
Governor design. : RQV300...900PA1252K
Governor no. : 0 421 815 484

Cust. part No. :

Customer-spec. information
Customer : TATRA
Motor : T38-928.60
Power KW : 255.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

C21

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.00
Tolerance mm : ± 1.00

Firing order : 1- 8- 5- 4- 7
 : - 2- 3- 6

Phasing : 0-45-90-135-180
 : -225-270-315

Tolerance : ± 0.30
Check
tolerance *NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 14.00
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 191.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes :	5.0
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Check tolerance	
cm ³ /1000S.	: 9.0
<hr/>	
Rated speed rpm	: 250
Tolerance mm	: +- 0.30
Del. quantity	
cm ³ /1000 strokes :	17.0
Tolerance	
cm ³ /1000 strokes :	+- 3.0
Check tolerance	
cm ³ /1000S.	: +- 6.0
Spreed	
Tolerance	
cm ³ /1000 strokes :	8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 1.63
Tolerance mm	: +- 0.20
<hr/>	
Rated speed rpm	: 958
guide sleeve	
travel mm	: 8.79
Tolerance mm	: +- 0.15
<hr/>	
Rated speed rpm	: 777
guide sleeve	
travel mm	: 6.70
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 520
guide sleeve	
travel mm	: 3.73
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 1260
guide sleeve	
travel mm	: 13.50
Tolerance mm	: +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1115
Rack travel in mm	: 13.00

Tolerance mm	: +- 1.30
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FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 900
Aneroid pressure	
hPa	: -
Del. quantity	
cm ³ /1000 strokes :	191.0
Tolerance	
cm ³ /1000 strokes :	+- 1.0
Check tolerance	
cm ³ /1000S.	: +- 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes :	5.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 61.0
tolerance degree	: +- 4.0
<hr/>	
control lever	
position degree	: 115.0
tolerance degree	: +- 4.0
<hr/>	
rack travel mm	: 13.00
Rated speed rpm	: 945
Tolerance 1/min	: +- 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1055
Tolerance 1/min	: +- 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 1150

LOW IDLE

control lever	
position degree	: 72.0
tolerance degree	: +- 4.0
<hr/>	
control lever	
position degree	: 18.0
tolerance degree	: +- 4.0

Testing:

Rated speed rpm	: 250
Tolerance mm	: +- 0.10

Rated speed rpm : 150
CRT mm min. : > 6.47
Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 14.00
Tolerance mm : +- 0.05

Rated speed rpm : 600
rack travel mm : 13.10
Tolerance mm : +- 0.10

Rated speed rpm : 300
rack travel mm : 12.20
Tolerance mm : +- 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 900
Pressure hPa : 1500
rack travel mm : 14.00
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 900
rack travel mm : 8.90
Tolerance mm : +- 0.20

Rated speed rpm : 900

Pressure hPa : 375
rack travel mm : 10.25
Tolerance mm : +- 0.15

Pressure hPa : 750
rack travel mm : 12.75
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 170
Check speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 198.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 129.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 945
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 0.50
Del. quantity
cm³/1000 strokes : 255.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 250
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.08.95
Test oil : ISO 4113
Combination No. : 0 402 648 602A
Injection pump
Pump designation : PE8P110A32ORS7398
EP type number : 0 412 618 800
Governor
Governor design. : RQV300...900PA1252K
Governor no. : 0 421 815 484

Cust. part No. :

Customer-spec. information
Customer : TATRA
Motor : T3B-928.50
Power kW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : +- 0.1
Test nozzle holder assembly : 1 688 901 101
Opening pressure bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0

C25

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 5.05
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 13.00
Tolerance mm : +- 1.00

Firing order : 1-8-5-4-7
 : -2-3-6

Phasing : 0-45-90-135-180
 : -225-270-315

Tolerance : +- 0.30
Check tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 13.30
Tolerance mm : +- 0.05

Del. quantity cm³/1000 strokes : 175.0

Tolerance cm³/1000 strokes : +- 1.0

Check tolerance cm³/1000s. : +- 4.0

<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes :	5.0
<hr/>	
Check tolerance	
cm ³ /1000S. :	9.0
Rated speed rpm :	250
Tolerance mm :	+ 0.30
Del. quantity	
cm ³ /1000 strokes :	17.0
Tolerance	
cm ³ /1000 strokes :	+ 3.0
Check tolerance	
cm ³ /1000S. :	+ 6.0
Spread	
Tolerance	
cm ³ /1000 strokes :	8.0
Check tolerance	
cm ³ /1000S. :	12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	300
guide sleeve	
travel mm :	1.63
Tolerance mm :	+ 0.20
Rated speed rpm :	957
guide sleeve	
travel mm :	8.79
Tolerance mm :	+ 0.15
Rated speed rpm :	776
guide sleeve	
travel mm :	6.70
Tolerance mm :	+ 0.25
Rated speed rpm :	520
guide sleeve	
travel mm :	3.73
Tolerance mm :	+ 0.25
Rated speed rpm :	1260
guide sleeve	
travel mm :	13.50
Tolerance mm :	+ 0.50

GUIDE SLEEVE POSITION

Rated speed rpm :	1120
Rack travel in mm :	12.30

Tolerance mm :	+ 1.30
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FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	900
Aneroid pressure	
hPa :	-
Del. quantity	
cm ³ /1000 strokes :	175.0
Tolerance	
cm ³ /1000 strokes :	+ 1.0
Check tolerance	
cm ³ /1000S. :	+ 4.0
Spread	
Tolerance	
cm ³ /1000 strokes :	5.0
Check tolerance	
cm ³ /1000S. :	9.0

RATED SPEED

control lever	
position degree :	61.0
tolerance degree :	+ 4.0
control lever	
position degree :	115.0
tolerance degree :	+ 4.0
rack travel mm :	12.30
Rated speed rpm :	945
Tolerance 1/min :	+ 5
rack travel mm :	4.00
Rated speed rpm :	1095
Tolerance 1/min :	+ 15
rack travel mm :	0.50
Tolerance mm :	+ 0.50
Rated speed rpm :	1100

LOW IDLE

control lever	
position degree :	72.0
tolerance degree :	+ 4.0
control lever	
position degree :	18.0
tolerance degree :	+ 4.0

Testing:

Rated speed rpm :	250
Tolerance mm :	+ 0.10

Rated speed rpm : 150
CRT mm min. : > 6.50
Rated speed rpm : 360

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 13.30
Tolerance mm : + 0.05

Rated speed rpm : 600
rack travel mm : 12.30
Tolerance mm : + 0.10

Rated speed rpm : 300
rack travel mm : 11.50
Tolerance mm : + 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 900
Pressure hPa : 1500
rack travel mm : 13.30
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 900
rack travel mm : 8.90
Tolerance mm : + 0.20

Rated speed rpm : 900

Pressure hPa : 425
rack travel mm : 10.00
Tolerance mm : + 0.15

Pressure hPa : 750
rack travel mm : 12.25
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 182.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 129.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 945
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm³/1000 strokes : 255.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 250
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.09.95
Test oil : ISO 4113

Combination No. : 0 402 648 796

Injection pump
Pump designation : PE8P120A320LS7875
EP type number : 0 412 628 881

Governor
Governor design. : RQV250...1150PA1240
Governor no. : 0 421 814 160

Cust. part No. :

Customer-spec. information
Customer : DAEWOO
Motor : V2-8TC
Power KW : 265.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. L/h : 90
Tolerance L/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.20
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 16.00
Tolerance mm : ± 1.50

Firing order : 8-7-2-6-3
: -5-4-1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : ± 0.30
Check
tolerance *NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.70
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 200.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Speed
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 10.0

Rated speed rpm : 250

Rack travel in mm : 5.50
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.54
Tolerance mm : +- 0.20

Rated speed rpm : 1206
guide sleeve
travel mm : 8.12
Tolerance mm : +- 0.15

Rated speed rpm : 930
guide sleeve
travel mm : 5.50
Tolerance mm : +- 0.25

Rated speed rpm : 317
guide sleeve
travel mm : 2.69
Tolerance mm : +- 0.25

Rated speed rpm : 367
guide sleeve
travel mm : 3.18
Tolerance mm : +- 0.25

Rated speed rpm : 530
guide sleeve
travel mm : 3.62
Tolerance mm : +- 0.25

Rated speed rpm : 1307
guide sleeve
travel mm : 10.00
Tolerance mm : +- 0.25

Rated speed rpm : 1400
guide sleeve
travel mm : 11.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1265

Rack travel in mm : 12.40
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Speed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 10.0

RATED SPEED

control lever
position degree : 55.0
tolerance degree : +- 4.0

control lever
position degree : 119.0
tolerance degree : +- 4.0

rack travel mm : 11.70
Rated speed rpm : 1195
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1280

Tolerance 1/min : + 15
rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 85.0
tolerance degree : + 4.0

control lever
position degree : 21.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 5.50
Tolerance mm : + 0.10

Rated speed rpm : 150
CRT mm min. : > 8.50

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 12.70
Tolerance mm : + 0.05

Rated speed rpm : 650
rack travel mm : 12.70
Tolerance mm : + 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.70
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.40
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 315
rack travel mm : 9.50
Tolerance mm : + 0.20

Pressure hPa : 725
rack travel mm : 11.70
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 190
Check
speed 1/min : < 210

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 218.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 1195
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 205.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 5.50
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.09.95
Test oil : ISO 4113

Combination No. : 0 402 746 951

Injection pump
Pump designation : PES6P120A720RS7292
: -1
EP type number : 0 412 726 939

Governor
Governor design. : RQV350...1150PA1074K
Governor no. : 0 421 815 355

Cust. part No. : 0240747902

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 127.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 100
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

005

Test lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 3.30
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.20
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm ³ /1000 strokes :	271.0
<hr/>	
Tolerance	
cm ³ /1000 strokes :	+ 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: + 4.0
<hr/>	
Speed	
Tolerance	
cm ³ /1000 strokes :	8.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 12.0
<hr/>	
Rated speed rpm :	350
<hr/>	
Rack travel in mm :	8.00
Tolerance mm :	+ 0.30
Del. quantity	
cm ³ /1000 strokes :	13.0
Tolerance	
cm ³ /1000 strokes :	+ 3.0
Check tolerance	
cm ³ /1000S.	: + 6.0
Speed	
Tolerance	
cm ³ /1000 strokes :	4.0
Check tolerance	
cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	350
guide sleeve	
travel mm :	1.53
Tolerance mm :	+ 0.20
<hr/>	
Rated speed rpm :	1205
guide sleeve	
travel mm :	9.35
Tolerance mm :	+ 0.15
<hr/>	
Rated speed rpm :	855
guide sleeve	
travel mm :	5.56
Tolerance mm :	+ 0.25
<hr/>	
Rated speed rpm :	550
guide sleeve	
travel mm :	3.17
Tolerance mm :	+ 0.25

Rated speed rpm :	1480
guide sleeve	
travel mm :	13.50
Tolerance mm :	+ 0.50

GUIDE SLEEVE POSITION

Rated speed rpm :	1329
Rack travel in mm :	13.00
Tolerance mm :	+ 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1150
Aneroid pressure	
hPa :	1500
Del. quantity	
cm ³ /1000 strokes :	271.0
Tolerance	
cm ³ /1000 strokes :	+ 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Speed	
Tolerance	
cm ³ /1000 strokes :	8.0
Check tolerance	
cm ³ /1000S.	: 12.0

RATED SPEED

control lever	
position degree :	109.0
tolerance degree :	+ 4.0
<hr/>	
rack travel mm :	13.20
Rated speed rpm :	1195
Tolerance 1/min :	+ 5
<hr/>	
rack travel mm :	4.00
Rated speed rpm :	1300
Tolerance 1/min :	+ 15
<hr/>	
rack travel mm :	0.70
Tolerance mm :	+ 0.70
Rated speed rpm :	1400

LOW IDLE

control lever	
position degree :	65.0
tolerance degree :	+ 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 6.00
Tolerance mm : +- 0.10

Rated speed rpm : 250
CRT mm min. : > 6.88

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 14.20
Tolerance mm : +- 0.05

Rated speed rpm : 950
rack travel mm : 13.80
Tolerance mm : +- 0.10

Rated speed rpm : 750
rack travel mm : 13.20
Tolerance mm : +- 0.10

Rated speed rpm : 600
rack travel mm : 12.80
Tolerance mm : +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
Pressure hPa : 1500
rack travel mm : 14.20
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1150
rack travel mm : 11.00
Tolerance mm : +- 0.15

Rated speed rpm : 1150

Pressure hPa : 850
rack travel mm : 13.50
Tolerance mm : +- 0.05

Pressure hPa : 350
rack travel mm : 11.70
Tolerance mm : +- 0.10

START CUT-OUT

Rated speed rpm : < 270
Check speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 262.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 256.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 166.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 13.20
Rated speed rpm : 1195
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.70

Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 158.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 8.00
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.09.95
Test oil : ISO 4113

Combination No. : 0 402 746 956

Injection pump
Pump designation : PES6P120A720RS7292
: -1

EP type number : 0 412 726 939

Governor
Governor design. : RQV350...1150PA1074
: -1K

Governor no. : 0 421 815 365

Cust. part No. : 0250740902

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power kW : 142.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 100
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

D09

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30

Check
tolerance °NW : ± 0.50

Start of delivery blocking

°NW after s.o.d. : 3.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.50

Tolerance mm : \pm 0.05

 Del. quantity
 cm³/1000 strokes : 277.0

 Tolerance
 cm³/1000 strokes : \pm 1.0

 Check tolerance
 cm³/1000S. : \pm 4.0

 Spreed
 Tolerance
 cm³/1000 strokes : 8.0

 Check tolerance
 cm³/1000S. : 12.0

 Rated speed rpm : 350

 Rack travel in mm : 8.00
 Tolerance mm : \pm 0.30
 Del. quantity
 cm³/1000 strokes : 13.0
 Tolerance
 cm³/1000 strokes : \pm 3.0
 Check tolerance
 cm³/1000S. : \pm 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
 guide sleeve
 travel mm : 1.53
 Tolerance mm : \pm 0.20

 Rated speed rpm : 1206
 guide sleeve
 travel mm : 9.35
 Tolerance mm : \pm 0.15

 Rated speed rpm : 855
 guide sleeve
 travel mm : 5.56
 Tolerance mm : \pm 0.25

 Rated speed rpm : 540
 guide sleeve
 travel mm : 3.09
 Tolerance mm : \pm 0.25

Rated speed rpm : 1480
 guide sleeve
 travel mm : 13.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1331
 Rack travel in mm : 13.50
 Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
 Aneroid pressure
 hPa : 1500
 Del. quantity
 cm³/1000 strokes : 277.0
 Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

RATED SPEED

control lever
 position degree : 109.0
 tolerance degree : \pm 4.0

 rack travel mm : 13.50
 Rated speed rpm : 1195
 Tolerance 1/min : \pm 5

 rack travel mm : 4.00
 Rated speed rpm : 1305
 Tolerance 1/min : \pm 15

 rack travel mm : 0.70
 Tolerance mm : \pm 0.70
 Rated speed rpm : 1400

LOW IDLE

control lever
 position degree : 65.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 6.00
Tolerance mm : +- 0.10

Rated speed rpm : 250

CRT mm min. : > 6.88

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 14.50
Tolerance mm : +- 0.05

Rated speed rpm : 950
rack travel mm : 14.30
Tolerance mm : +- 0.10

Rated speed rpm : 750
rack travel mm : 13.70
Tolerance mm : +- 0.10

Rated speed rpm : 600
rack travel mm : 13.30
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
Pressure hPa : 1500
rack travel mm : 14.50
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1150
rack travel mm : 10.90
Tolerance mm : +- 0.15

Rated speed rpm : 1150

Pressure hPa : 850
rack travel mm : 13.90
Tolerance mm : +- 0.05

Pressure hPa : 350
rack travel mm : 11.50
Tolerance mm : +- 0.20

START CUT-OUT

Rated speed rpm : < 270
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 281.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 275.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 13.50
Rated speed rpm : 1195
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.90

Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 8.00
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.09.95
Test oil : ISO 4113

Combination No. : 0 402 746 957

Injection pump
Pump designation : PES6P120A72DRS7292
: -1
EP type number : 0 412 726 939

Governor
Governor design. : RQV350...1150PA1074
: -2K
Governor no. : 0 421 815 367

Cust. part No. : 0250741002

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 100
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 3.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.40

Tolerance mm	: ± 0.05
<hr/>	
Del. quantity cm ³ /1000 strokes	: 280.0
<hr/>	
Tolerance cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm ³ /1000S.	: ± 4.0
<hr/>	
Spread Tolerance cm ³ /1000 strokes	: 8.0
<hr/>	
Check tolerance cm ³ /1000S.	: 12.0
<hr/>	
Rated speed rpm	: 350
<hr/>	
Rack travel in mm	: 8.00
Tolerance mm	: ± 0.30
Del. quantity cm ³ /1000 strokes	: 13.0
Tolerance cm ³ /1000 strokes	: ± 3.0
Check tolerance cm ³ /1000S.	: ± 6.0
Spread Tolerance cm ³ /1000 strokes	: 4.0
Check tolerance cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 350
guide sleeve travel mm	: 1.53
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 1206
guide sleeve travel mm	: 9.35
Tolerance mm	: ± 0.15
<hr/>	
Rated speed rpm	: 855
guide sleeve travel mm	: 5.56
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 550
guide sleeve travel mm	: 3.17
Tolerance mm	: ± 0.25

Rated speed rpm	: 1480
guide sleeve travel mm	: 13.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1331
Rack travel in mm	: 13.50
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1150
Aneroid pressure hPa	: 1500
Del. quantity cm ³ /1000 strokes	: 280.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Spread Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

RATED SPEED

control lever position degree	: 109.0
tolerance degree	: ± 4.0
<hr/>	
rack travel mm	: 13.40
Rated speed rpm	: 1195
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1305
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.70
Tolerance mm	: ± 0.70
Rated speed rpm	: 1400

LOW IDLE

control lever position degree	: 65.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 250

CRT mm min. : $>$ 6.88

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 14.40
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 14.25
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : 13.70
Tolerance mm : \pm 0.10

Rated speed rpm : 600
rack travel mm : 13.20
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
Pressure hPa : 1500
rack travel mm : 14.40
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1150
rack travel mm : 10.50
Tolerance mm : \pm 0.15

Rated speed rpm : 1150

Pressure hPa : 1050
rack travel mm : 13.70
Tolerance mm : \pm 0.05

Pressure hPa : 400
rack travel mm : 11.30
Tolerance mm : \pm 0.15

START CUT-OUT

Rated speed rpm : $<$ 270

Check
speed 1/min : $<$ 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 285.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 277.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 143.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.80

Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 175.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 8.00
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.09.95
Test oil : ISO 4113

Combination No. : 0 402 746 959

Injection pump
Pump designation : PES6P120A720RS7292
: -1
EP type number : 0 412 726 939

Governor
Governor design. : RQV350...1150PA1104K
Governor no. : 0 421 815 368

Cust. part No. : 0250741402

Customer-spec. information

Customer : MB-NFZ
Motor : OM366LA
Power KW : 172.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Overflow quantity
min. l/h : 100
Tolerance l/h : +- 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

D17

Test lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 4.00
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 20.50
Tolerance mm : +- 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50

Start of delivery blocking

°NW after s.o.d. : 3.30
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.40
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 280.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 350

Rack travel in mm : 8.00
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.53
Tolerance mm : +- 0.20

Rated speed rpm : 1205
guide sleeve
travel mm : 9.35
Tolerance mm : +- 0.15

Rated speed rpm : 855
guide sleeve
travel mm : 5.56
Tolerance mm : +- 0.25

Rated speed rpm : 540
guide sleeve
travel mm : 3.09
Tolerance mm : +- 0.25

Rated speed rpm : 1480

guide sleeve
travel mm : 13.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1329
Rack travel in mm : 13.25
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 280.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 109.0
tolerance degree : +- 4.0

rack travel mm : 13.40
Rated speed rpm : 1195
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1300
Tolerance 1/min : +- 15

rack travel mm : 0.70
Tolerance mm : +- 0.70
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 65.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 250

CRT mm min. : $>$ 6.88

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 14.40
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 14.40
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : 13.90
Tolerance mm : \pm 0.10

Rated speed rpm : 600
rack travel mm : 13.40
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
Pressure hPa : 1500
rack travel mm : 14.40
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1150
rack travel mm : 10.40
Tolerance mm : \pm 0.15

Rated speed rpm : 1150

Pressure hPa : 1050
rack travel mm : 13.60
Tolerance mm : \pm 0.05

Pressure hPa : 450
rack travel mm : 11.30
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $<$ 270
Check
speed 1/min : $<$ 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 290.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 283.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 134.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.60
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 155.0

Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 8.00
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.09.95
Test oil : ISO 4113

Combination No. : 0 402 746 960

Injection pump
Pump designation : PES6P120A720RS7292
: -1

EP type number : 0 412 726 939

Governor
Governor design. : RQV350...1150PA1104
: -1K

Governer no. : 0 421 815 371

Cust. part No. : 0250741302

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 100
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5

D21

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30

Check
tolerance °NW : ± 0.50

Start of delivery blocking

*NW after s.o.d. : 3.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.40

Tolerance mm : +- 0.05

 Del. quantity
 cm³/1000 strokes : 280.0

 Tolerance
 cm³/1000 strokes : +- 1.0

 Check tolerance
 cm³/1000S. : +- 4.0

 Spreed
 Tolerance
 cm³/1000 strokes : 8.0

 Check tolerance
 cm³/1000S. : 12.0

 Rated speed rpm : 350

 Rack travel in mm : 8.00
 Tolerance mm : +- 0.30
 Del. quantity
 cm³/1000 strokes : 13.0
 Tolerance
 cm³/1000 strokes : +- 3.0
 Check tolerance
 cm³/1000S. : +- 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
 guide sleeve
 travel mm : 1.53
 Tolerance mm : +- 0.20

 Rated speed rpm : 1206
 guide sleeve
 travel mm : 9.35
 Tolerance mm : +- 0.15

 Rated speed rpm : 855
 guide sleeve
 travel mm : 5.56
 Tolerance mm : +- 0.25

 Rated speed rpm : 540
 guide sleeve
 travel mm : 3.09
 Tolerance mm : +- 0.25

Rated speed rpm : 1480
 guide sleeve
 travel mm : 13.50
 Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1331
 Rack travel in mm : 13.40
 Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
 Aneroid pressure
 hPa : 1500
 Del. quantity
 cm³/1000 strokes : 280.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

RATED SPEED

control lever
 position degree : 109.0
 tolerance degree : +- 4.0

 rack travel mm : 13.40
 Rated speed rpm : 1195
 Tolerance 1/min : +- 5

 rack travel mm : 4.00
 Rated speed rpm : 1305
 Tolerance 1/min : +- 15

 rack travel mm : 0.70
 Tolerance mm : +- 0.70
 Rated speed rpm : 1400

LOW IDLE

control lever
 position degree : 65.0
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 250

CRT mm min. : > 6.88

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 14.40
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 14.25
Tolerance mm : ± 0.10

Rated speed rpm : 750
rack travel mm : 13.70
Tolerance mm : ± 0.10

Rated speed rpm : 600
rack travel mm : 13.20
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
Pressure hPa : 1500
rack travel mm : 14.40
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1150
rack travel mm : 10.50
Tolerance mm : ± 0.15

Rated speed rpm : 1150

Pressure hPa : 1050
rack travel mm : 13.70
Tolerance mm : ± 0.05

Pressure hPa : 400
rack travel mm : 11.30
Tolerance mm : ± 0.15

START CUT-OUT

Rated speed rpm : < 270

Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500

Rated speed rpm : 750

Del. quantity
cm³/1000 strokes : 285.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 5.0

Spread
Tolerance

cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1500

Rated speed rpm : 600

Del. quantity
cm³/1000 strokes : 277.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -

Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 143.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 13.40

Rated speed rpm : 1195

Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

rack travel mm : 13.80

Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 175.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 8.00
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.09.95
Test oil : ISO 4113

Combination No. : 0 402 746 961

Injection pump
Pump designation : PES6P120A720RS7292
: -1
EP type number : 0 412 726 939

Governor
Governor design. : RQV350...1150PA1104
: -2K
Governor no. : 0 421 815 372

Cust. part No. : 0250741202

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 142.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Overflow quantity
min. L/h : 100
Tolerance L/h : +- 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

D25

Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 4.00
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 20.50
Tolerance mm : +- 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50

Start of delivery blocking

°NW after s.o.d. : 3.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.50

Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 277.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 350

Rack travel in mm : 8.00
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.53
Tolerance mm : +- 0.20

Rated speed rpm : 1206
guide sleeve
travel mm : 9.35
Tolerance mm : +- 0.15

Rated speed rpm : 855
guide sleeve
travel mm : 5.56
Tolerance mm : +- 0.25

Rated speed rpm : 540
guide sleeve
travel mm : 3.09
Tolerance mm : +- 0.25

Rated speed rpm : 1480
guide sleeve
travel mm : 13.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1331

Rack travel in mm : 13.50
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 277.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 108.0
tolerance degree : +- 4.0

rack travel mm : 13.50
Rated speed rpm : 1195
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1305
Tolerance 1/min : +- 15

rack travel mm : 0.70
Tolerance mm : +- 0.70
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 70.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 350
 rack travel mm : 6.00
 Tolerance mm : ± 0.10

Rated speed rpm : 250

CRT mm min. : > 7.00

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1150
 rack travel mm : 14.50
 Tolerance mm : ± 0.05

Rated speed rpm : 950
 rack travel mm : 14.30
 Tolerance mm : ± 0.10

Rated speed rpm : 750
 rack travel mm : 13.70
 Tolerance mm : ± 0.10

Rated speed rpm : 600
 rack travel mm : 13.30
 Tolerance mm : ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
 Pressure hPa : 1500
 rack travel mm : 14.50
 Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 1150
 rack travel mm : 10.90
 Tolerance mm : ± 0.15

Rated speed rpm : 1150

Pressure hPa : 850
 rack travel mm : 13.90
 Tolerance mm : ± 0.05

Pressure hPa : 350
 rack travel mm : 11.50
 Tolerance mm : ± 0.20

START CUT-OUT

Rated speed rpm : < 270
 Check speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500
 Rated speed rpm : 750
 Del. quantity cm³/1000 strokes : 281.0
 Tolerance cm³/1000 strokes : ± 2.0
 Check tolerance cm³/1000S. : ± 5.0
 Spread Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : 1500
 Rated speed rpm : 600
 Del. quantity cm³/1000 strokes : 275.0
 Tolerance cm³/1000 strokes : ± 3.0
 Check tolerance cm³/1000S. : ± 6.0

Aneroid pressure hPa : -
 Rated speed rpm : 500
 Del. quantity cm³/1000 strokes : 155.0
 Tolerance cm³/1000 strokes : ± 1.0
 Check tolerance cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 13.50
 Rated speed rpm : 1195
 Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 13.90

Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 8.00
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.09.95
Test oil : ISO 4113

Combination No. : 0 402 746 962

Injection pump
Pump designation : PES6P120A720RS7292
: -1

EP type number : 0 412 726 939

Governor
Governor design. : RQV350...1150PA1104
: -3K

Governor no. : 0 421 815 373

Cust. part No. : 0250741102

Customer-spec. information

Customer : MB-NFZ
Motor : OM366LA
Power KW : 127.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. L/h : 100
Tolerance L/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

E01

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

°NW after s.o.d. : 3.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.20
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm ³ /1000 strokes	: 271.0
<hr/>	
Tolerance	
cm ³ /1000 strokes	: +- 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: +- 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 8.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 12.0
<hr/>	
Rated speed rpm	: 350
<hr/>	
Rack travel in mm	: 8.00
Tolerance mm	: +- 0.30
Del. quantity	
cm ³ /1000 strokes	: 13.0
Tolerance	
cm ³ /1000 strokes	: +- 3.0
Check tolerance	
cm ³ /1000S.	: +- 6.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 4.0
Check tolerance	
cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 350
guide sleeve	
travel mm	: 1.53
Tolerance mm	: +- 0.20
<hr/>	
Rated speed rpm	: 1205
guide sleeve	
travel mm	: 9.35
Tolerance mm	: +- 0.15
<hr/>	
Rated speed rpm	: 855
guide sleeve	
travel mm	: 5.56
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 540
guide sleeve	
travel mm	: 3.09
Tolerance mm	: +- 0.25

Rated speed rpm	: 1480
guide sleeve	
travel mm	: 13.50
Tolerance mm	: +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1329
Rack travel in mm	: 13.20
Tolerance mm	: +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1150
Aneroid pressure	
hPa	: 1500
Del. quantity	
cm ³ /1000 strokes	: 271.0
Tolerance	
cm ³ /1000 strokes	: +- 1.0
Check tolerance	
cm ³ /1000S.	: +- 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

RATED SPEED

control lever	
position degree	: 109.0
tolerance degree	: +- 4.0
<hr/>	
rack travel mm	: 13.20
Rated speed rpm	: 1195
Tolerance 1/min	: +- 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1300
Tolerance 1/min	: +- 15
<hr/>	
rack travel mm	: 0.70
Tolerance mm	: +- 0.70
Rated speed rpm	: 1400

LOW IDLE

control lever	
position degree	: 65.0
tolerance degree	: +- 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 250

CRT mm min. : > 7.00

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 14.20
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 13.80
Tolerance mm : ± 0.10

Rated speed rpm : 750
rack travel mm : 13.20
Tolerance mm : ± 0.10

Rated speed rpm : 600
rack travel mm : 12.80
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
Pressure hPa : 1500
rack travel mm : 14.20
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1150
rack travel mm : 11.00
Tolerance mm : ± 0.15

Rated speed rpm : 1150

Pressure hPa : 850
rack travel mm : 13.50
Tolerance mm : ± 0.05

Pressure hPa : 350
rack travel mm : 11.70
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 270
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 262.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 256.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 166.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 13.20
Rated speed rpm : 1195
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.70

Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 158.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 8.00
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.09.95
Test oil : ISO 4113

Combination No. : 0 402 746 967

Injection pump
Pump designation : PES6P120A320RS7324
EP type number : 0 412 726 905

Governor
Governor design. : RQ300/1200PA1132
Governor no. : 0 421 801 708

Cust. part No. : 51.11103-7296

Customer-spec. information
Customer : MAN
Motor : D0826LF11/LFLO3
Power KW : 162.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 003

E05

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.15
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 12.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 5.00
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 70.0

Tolerance
cm³/1000 strokes : ± 8.0

Check tolerance
cm³/1000S. : + 11.0

Spread

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 1000

Rack travel in mm : 12.45
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 200.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 27.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.41
Tolerance mm : + 0.10

Rated speed rpm : 1257
guide sleeve
travel mm : 6.37
Tolerance mm : + 0.10

Rated speed rpm : 1200
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 425
guide sleeve
travel mm : 4.31
Tolerance mm : + 0.10

Rated speed rpm : 530
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 1430
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 97.0
tolerance degree : + 4.0

rack travel mm : 11.45
 Rated speed rpm : 1245
 Tolerance 1/min : +- 8

rack travel mm : 4.00
 Rated speed rpm : 1328
 Tolerance 1/min : +- 15

rack travel mm : 0.25
 Tolerance mm : +- 0.25
 Rated speed rpm : 1460

LOW IDLE

control lever
 position degree : 71.0
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.20
 Tolerance mm : +- 0.10

rack travel mm : 2.00
 Rated speed rpm : 375
 Tolerance 1/min : +- 30

Rated speed rpm : 250

CRT mm min. : > 6.50

TORQUE CONTROL

Rated speed rpm : 1000
 rack travel mm : 12.45
 Tolerance mm : +- 0.05

Rated speed rpm : 1200
 rack travel mm : 12.45
 Tolerance mm : +- 0.10

Rated speed rpm : 750
 rack travel mm : 12.45
 Tolerance mm : +- 0.10

ANEROID/ALTITUDE
 COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1500
 rack travel mm : 12.45
 Tolerance mm : +- 0.05

E07

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 500
 rack travel mm : 8.00
 Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 140
 rack travel mm : 8.35
 Tolerance mm : +- 0.05

Pressure hPa : 700
 rack travel mm : 11.35
 Tolerance mm : +- 0.15

START CUT-OUT

Rated speed rpm : < 220
 Check
 speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1500
 Rated speed rpm : 1200
 Del. quantity
 cm³/1000 strokes : 193.0
 Tolerance
 cm³/1000 strokes : +- 3.0
 Check tolerance
 cm³/1000S. : +- 6.0

Aneroid pressure
 hPa : 1500
 Rated speed rpm : 750
 Del. quantity
 cm³/1000 strokes : 204.0
 Tolerance
 cm³/1000 strokes : +- 3.0
 Check tolerance
 cm³/1000S. : +- 6.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 129.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 11.45
Rated speed rpm : 1245
Tolerance 1/min : +- 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.00
Del. quantity
cm³/1000 strokes : 189.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 27.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.08.95
Test oil : ISO 4113

Combination No. : 0 402 846 059

Injection pump
Pump designation : PE6P120A720RS8026
EP type number : 0 412 826 027

Governor
Governor design. : RQV200...950PA1091K
Governor no. : 0 421 815 984

Cust. part No. : 1355081

Customer-spec. information
Customer : SCANIA
Motor : DSC1172

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

ED9

x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.50
Check
tolerance *NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 383.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
 cm³/1000S. : +- 4.0

 Spreed
 Tolerance
 cm³/1000 strokes : 8.0

 Check tolerance
 cm³/1000S. : 12.0

 Rated speed rpm : 250

 Rack travel in mm : 4.40
 Tolerance mm : +- 0.30
 Del. quantity
 cm³/1000 strokes : 16.0
 Tolerance
 cm³/1000 strokes : +- 3.0
 Check tolerance
 cm³/1000S. : +- 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
 guide sleeve
 travel mm : 1.26
 Tolerance mm : +- 0.20

 Rated speed rpm : 1008
 guide sleeve
 travel mm : 9.87
 Tolerance mm : +- 0.15

 Rated speed rpm : 800
 guide sleeve
 travel mm : 6.59
 Tolerance mm : +- 0.25

 Rated speed rpm : 310
 guide sleeve
 travel mm : 2.00
 Tolerance mm : +- 0.25

 Rated speed rpm : 360
 guide sleeve
 travel mm : 2.45
 Tolerance mm : +- 0.25

 Rated speed rpm : 520

guide sleeve
 travel mm : 3.58
 Tolerance mm : +- 0.25

 Rated speed rpm : 1200
 guide sleeve
 travel mm : 13.50
 Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1060

 Rack travel in mm : 12.50
 Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 383.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

RATED SPEED

control lever
 position degree : 65.0
 tolerance degree : +- 4.0

 control lever
 position degree : 118.0
 tolerance degree : +- 4.0

 rack travel mm : 12.50
 Rated speed rpm : 995
 Tolerance 1/min : +- 5

 rack travel mm : 4.00
 Rated speed rpm : 1075
 Tolerance 1/min : +- 15

 rack travel mm : 0.50
 Tolerance mm : +- 0.50
 Rated speed rpm : 1150

LOW IDLE

control lever
position degree : 71.0
tolerance degree : +- 4.0

control lever
position degree : 17.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.40
Tolerance mm : +- 0.10

Rated speed rpm : 150

CRT mm min. : > 5.40

Rated speed rpm : 325

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 12.35
Tolerance mm : +- 0.05

Rated speed rpm : 950
rack travel mm : 13.50
Tolerance mm : +- 0.10

Rated speed rpm : 300
rack travel mm : 10.75
Tolerance mm : +- 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 950
Pressure hPa : 1500
rack travel mm : 13.50
Tolerance mm : +- 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 950
rack travel mm : 7.00
Tolerance mm : +- 0.20

Rated speed rpm : 950

E11

Pressure hPa : 520
rack travel mm : 7.80
Tolerance mm : +- 0.20

Pressure hPa : 800
rack travel mm : 9.85
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 384.0
Tolerance
cm³/1000 strokes : +- 4.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 189.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 12.50
Rated speed rpm : 995
Tolerance 1/min : +- 5

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.40
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.09.95
Test oil : ISO 4113

Combination No. : 0 403 466 156

Injection pump
Pump designation : PES6MW100/120RS1238
EP type number : 0 413 406 237

Governor
Governor design. : RSV450...1100MW2A374
Governor no. : 0 420 085 257

Cust. part No. : 3926881

Customer-spec. information

Customer : CDC
Motor : 6 CT-830
Power KW : 160.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

E13

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 2.80
Tolerance mm : ± 0.05
test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 9.50
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 143.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 4.0

Check tolerance
 cm³/1000S. : 7.5

Rated speed rpm : 450

Rack travel in mm : 5.30
 Tolerance mm : +- 0.30

Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : +- 2.0
 Check tolerance
 cm³/1000S. : +- 4.5

Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
 Tolerance mm : +- 0.35

governor spring
 pre-tension
 click setting x : 4.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
 Aneroid pressure
 hPa : 1100
 Del. quantity
 cm³/1000 strokes : 143.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

RATED SPEED

control lever
 position degree : 104.0
 tolerance degree : +- 4.0

rack travel mm : 10.90
 Rated speed rpm : 1150
 Tolerance 1/min : +- 5

rack travel mm : 4.00
 Rated speed rpm : 1270
 Tolerance 1/min : +- 15

rack travel mm : 0.85
 Tolerance mm : +- 0.55
 Rated speed rpm : 1400

rack travel mm : 4.00
 Rated speed rpm : 1225

LOW IDLE

control lever
 position degree : 82.0
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 450
 rack travel mm : 5.30
 Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1100
 rack travel mm : 11.90
 Tolerance mm : +- 0.05

Rated speed rpm : 750
 rack travel mm : 12.40
 Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1100
rack travel mm : 12.45
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.50
Tolerance mm : +- 0.05

Rated speed rpm : 500

Pressure hPa : 850
rack travel mm : 12.00
Tolerance mm : +- 0.20

Pressure hPa : 625
rack travel mm : 11.00
Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1100
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 154.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 115.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 1150
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : +- 1.00
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 13.0

LOW IDLE

Rated speed rpm : 450
rack travel mm : 5.30
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.09.95
Test oil : ISO 4113
Combination No. : 0 403 466 168
Injection pump
Pump designation : PES6MW100/120RS1238
EP type number : 0 413 406 237
Governor
Governor design. : RSV450...1000MW2A389
Governor no. : G 420 085 269
Cust. part No. : 3929167

Customer-spec. information
Customer : CDC
Motor : 6 CT-830
Power KW : 134.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 047
Inlet press. bar : 1.5
Test nozzle holder assembly : 1 688 901 101
Opening pressure bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 2.80
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check tolerance °NW : ± 0.75
Start of delivery blocking
°NW after s.o.d. : 9.50
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000
Rack travel in mm : 11.60
Tolerance mm : ± 0.05
Del. quantity cm³/1000 strokes : 126.0
Tolerance cm³/1000 strokes : ± 1.0

<hr/>	
Check tolerance cm ³ /1000S.	: + 4.0
<hr/>	
Spread Tolerance cm ³ /1000 strokes	: 4.0
<hr/>	
Check tolerance cm ³ /1000S.	: 7.5
<hr/>	
Rated speed rpm	: 450
<hr/>	
Rack travel in mm	: 6.50
Tolerance mm	: + 0.30
Del. quantity cm ³ /1000 strokes	: 28.0
Tolerance cm ³ /1000 strokes	: +- 2.0
Check tolerance cm ³ /1000S.	: +- 4.5
Spread Tolerance cm ³ /1000 strokes	: 3.5
Check tolerance cm ³ /1000S.	: 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.65
Tolerance mm	: + 0.35
<hr/>	
governor spring pre-tension click setting x	: 3.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Aneroid pressure hPa	: 1000
Del. quantity cm ³ /1000 strokes	: 126.0
Tolerance cm ³ /1000 strokes	: +- 1.0
Check tolerance cm ³ /1000S.	: +- 4.0
Spread Tolerance cm ³ /1000 strokes	: 4.0

Check tolerance cm ³ /1000S.	: 7.5
--	-------

RATED SPEED

control lever position degree	: 99.0
tolerance degree	: + 4.0
<hr/>	
rack travel mm	: 10.60
Rated speed rpm	: 1050
Tolerance 1/min	: + 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1155
Tolerance 1/min	: +- 15
<hr/>	
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1300
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1165

LOW IDLE

control lever position degree	: 82.0
tolerance degree	: +- 4.0

Testing:

Rated speed rpm	: 450
rack travel mm	: 6.50
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 100
<hr/>	
CRT mm min.	: > 19.00

TORQUE CONTROL

Rated speed rpm	: 1000
rack travel mm	: 11.60
Tolerance mm	: +- 0.05
<hr/>	
Rated speed rpm	: 750
rack travel mm	: 12.40
Tolerance mm	: +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.40
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.40
Tolerance mm : \pm 0.05

Rated speed rpm : 500

Pressure hPa : 650
rack travel mm : 12.10
Tolerance mm : \pm 0.15

Pressure hPa : 550
rack travel mm : 11.70
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 118.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 10.60
Rated speed rpm : 1050
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 13.0

LOW IDLE

Rated speed rpm : 450
rack travel mm : 6.50
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 28.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 29.05.95
Test oil : ISO 4113

Combination No. : 0 400 836 018

Injection pump
Pump designation : PES6A80D410/3RS2527
EP type number : 0 410 886 059

Governor
Governor design. : RQ275/1400AB798DL
Governor no. : 0 420 202 239

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : F6L912
Power kW : 88.3

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 11.65
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 65.5

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.0

Speed
Tolerance
cm³/1000 strokes : 2.0

Check tolerance
cm³/1000S. : 3.5

Rated speed rpm : 275

Rack travel in mm : 5.45
Tolerance mm : ± 0.10

Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : ± 3.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 4.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 650
 Rack travel in mm : 16.00
 Tolerance mm : ± 0.40

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 65.5
 Tolerance
 cm³/1000 strokes : ± 0.5
 Check tolerance
 cm³/1000S. : ± 2.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.0
 Check tolerance
 cm³/1000S. : 3.5

RATED SPEED

rack travel mm : 10.60
 Rated speed rpm : 1453
 Tolerance 1/min : ± 8
 rack travel mm : 4.00
 Rated speed rpm : 1550
 Tolerance 1/min : ± 15
 rack travel mm : 0.50
 Tolerance mm : ± 0.50
 Rated speed rpm : 1650

LOW IDLE

E20

Testing:

Rated speed rpm : 275
 rack travel mm : 5.45
 Tolerance mm : ± 0.05
 rack travel mm : 2.00
 Rated speed rpm : 450
 Tolerance 1/min : ± 20
 Rated speed rpm : 100
 CRT mm min. : > 7.00
 Rated speed rpm : 600
 CRT mm max. : < 1.00

TORQUE CONTROL

Dimension a mm : 0.65
 Rated speed rpm : 1400
 rack travel mm : 11.65
 Tolerance mm : ± 0.05
 Rated speed rpm : 650
 rack travel mm : 13.10
 Tolerance mm : ± 0.10
 Rated speed rpm : 810
 rack travel mm : 12.70
 Tolerance mm : ± 0.10
 Rated speed rpm : 1015
 rack travel mm : 11.95
 Tolerance mm : ± 0.15

BREAKAWAY

Rack travel in mm : 10.60
 Rated speed rpm : 1453
 Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 17.30
 Tolerance mm : ± 0.30
 Del. quantity
 cm³/1000 strokes : 105.0

Tolerance
cm³/1000 strokes : +- 5.0
Check tolerance
cm³/1000S. : +- 8.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : 5.45
Tolerance mm : +- 0.10
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 4.5
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.09.95
Test oil : ISO 4113
Combination No. : 0 402 736 885
Injection pump
Pump designation : PES6P120A120RS7370
EP type number : 0 412 726 934
Governor
Governor design. : RQV400...1250PA1212K
Governor no. : 0 421 815 462
Cust. part No. : 3929688

Customer-spec. information
Customer : CDC
Motor : 6BTA-A
Power KW : 131.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 086
Inlet press. bar : 2.0
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1 688 901 103
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance *NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 6.50
Tolerance : ± 0.50
Check
tolerance *NW : ± 0.75
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250
Rack travel in mm : 13.85
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Del. quantity
cm³/1000 strokes : 19.5

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 5.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 420
guide sleeve
travel mm : 1.56
Tolerance mm : +- 0.20

Rated speed rpm : 1412
guide sleeve
travel mm : 9.88
Tolerance mm : +- 0.15

Rated speed rpm : 1020
guide sleeve
travel mm : 5.97
Tolerance mm : +- 0.25

Rated speed rpm : 2000
guide sleeve
travel mm : 13.50
Tolerance mm : +- 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 114.0
tolerance degree : +- 6.0

rack travel mm : 12.80
Rated speed rpm : 1330
Tolerance 1/min : +- 15

rack travel mm : 4.00
Rated speed rpm : 1580
Tolerance 1/min : +- 5

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1700

LOW IDLE

control lever
position degree : 62.5
tolerance degree : +- 6.0

Testing:

Rated speed rpm : 420
rack travel mm : 6.20
Tolerance mm : +- 0.20

Rated speed rpm : 300

CRT mm min. : > 7.20

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 13.85
Tolerance mm : +- 0.05

Rated speed rpm : 800
rack travel mm : 11.80
Tolerance mm : +- 0.10

Rated speed rpm : 1000
rack travel mm : 12.50
Tolerance mm : +- 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : 9.40
Tolerance mm : ± 0.20

Rated speed rpm : 1250

Pressure hPa : 440
rack travel mm : 12.55
Tolerance mm : ± 0.30

Pressure hPa : 265
rack travel mm : 10.80
Tolerance mm : ± 0.20

START CUT-OUT

Rated speed rpm : < 315
Check
speed 1/min : < 325

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 123.5
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1250
Del. quantity
cm³/1000 strokes : 96.0
Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.80
Rated speed rpm : 1330
Tolerance 1/min : ± 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.70
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 157.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 25.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 19.5
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 29.09.95
Test oil : ISO 4113

Combination No. : 0 401 446 150

Injection pump
Pump designation : PE6R130/720RS1506
EP type number : 0 411 436 002

Governor
Governor design. : RQV250...1050R4K
Governor no. : 0 421 415 003

Cust. part No. : 865 020 P02 v. 08/94

Customer-spec. information

Customer : PENTA
Motor : TAMD163 P-A
Power KW : 553.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration damper
(RoBo diaphragm) : 3.1

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holder assembly : 1 688 901 105

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 14.40
Tolerance mm : ± 0.05

Del. quantity cm³/1000 strokes : 450.0

Tolerance
cm³/1000 strokes : +- 2.0

Check tolerance
cm³/1000S. : +- 5.0

Spreed
Tolerance
cm³/1000 strokes : 13.0

Check tolerance
cm³/1000S. : 17.0

Rated speed rpm : 250

Rack travel in mm : 6.65
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 95.0

Tolerance
cm³/1000 strokes : +- 4.0

Check tolerance
cm³/1000S. : +- 7.0

Spreed
Tolerance
cm³/1000 strokes : 11.0

Check tolerance
cm³/1000S. : 15.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.26
Tolerance mm : +- 0.25

Rated speed rpm : 1106
guide sleeve
travel mm : 9.18
Tolerance mm : +- 0.25

Rated speed rpm : 895
guide sleeve
travel mm : 6.42
Tolerance mm : +- 0.25

Rated speed rpm : 310
guide sleeve
travel mm : 2.00
Tolerance mm : +- 0.25

Rated speed rpm : 360
guide sleeve
travel mm : 2.41
Tolerance mm : +- 0.25

Rated speed rpm : 570
guide sleeve
travel mm : 3.54
Tolerance mm : +- 0.25

Rated speed rpm : 1360
guide sleeve
travel mm : 13.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1205

Rack travel in mm : 11.00
Tolerance mm : +- 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 2200

Del. quantity
cm³/1000 strokes : 450.0

Tolerance
cm³/1000 strokes : +- 2.0

Check tolerance
cm³/1000S. : +- 5.0

Spreed
Tolerance
cm³/1000 strokes : 13.0

Check tolerance
cm³/1000S. : 17.0

RATED SPEED

control lever
position degree : 65.0
tolerance degree : +- 4.0

control lever
position degree : 119.0
tolerance degree : +- 4.0

rack travel mm : 13.40
Rated speed rpm : 1105
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1200
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : +- 4.0

control lever
position degree : 20.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 6.65
Tolerance mm : +- 0.10

Rated speed rpm : 150

CRT mm min. : > 7.70

Rated speed rpm : 380

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 14.40
Tolerance mm : +- 0.05

Rated speed rpm : 850
rack travel mm : 13.20
Tolerance mm : +- 0.15

Rated speed rpm : 975
rack travel mm : 14.30
Tolerance mm : +- 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1050
Pressure hPa : 2200
rack travel mm : 14.40
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.70
Tolerance mm : +- 0.15

Rated speed rpm : 1050

E27

Pressure hPa : 1580
rack travel mm : 5.10
Tolerance mm : +- 0.10

Pressure hPa : 400
rack travel mm : 0.25
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2200
Rated speed rpm : 850
Del. quantity
cm³/1000 strokes : 412.0
Tolerance
cm³/1000 strokes : +- 4.0
Check tolerance
cm³/1000S. : +- 7.0
Speed
Tolerance
cm³/1000 strokes : 15.0
Check tolerance
cm³/1000S. : 19.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 238.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1105
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.10
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 385.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 25.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 6.65
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 7.0
Spreed
Tolerance
cm³/1000 strokes : 11.0
Check tolerance
cm³/1000S. : 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.09.95
Test oil : ISO 4113
Combination No. : 0 401 848 829
Injection pump
Pump designation : PE8P110A320LS3865
EP type number : 0 411 818 728
Governor
Governor design. : RQ250/1150PA1250
Governor no. : 0 421 801 796

Cust. part No. :

Customer-spec. information
Customer : DAEWOO
Motor : V2-8NA

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0

F01

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 4.00
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1
Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50
Start of delivery mark
Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1150
Rack travel in mm : 11.80
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 126.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes :	6.0
<hr/>	
Check tolerance	
cm ³ /1000S. :	10.0
Rated speed rpm :	250
Rack travel in mm :	8.10
Tolerance mm :	+ 0.30
Del. quantity	
cm ³ /1000 strokes :	25.0
Tolerance	
cm ³ /1000 strokes :	+ 3.0
Check tolerance	
cm ³ /1000S. :	+ 6.0
Spreed	
Tolerance	
cm ³ /1000 strokes :	6.0
Check tolerance	
cm ³ /1000S. :	10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	250
guide sleeve	
travel mm :	1.59
Tolerance mm :	+ 0.20
Rated speed rpm :	1205
guide sleeve	
travel mm :	7.34
Tolerance mm :	+ 0.15
Rated speed rpm :	1150
guide sleeve	
travel mm :	7.00
Tolerance mm :	+ 0.10
Rated speed rpm :	414
guide sleeve	
travel mm :	5.47
Tolerance mm :	+ 0.10
Rated speed rpm :	510
guide sleeve	
travel mm :	7.00
Tolerance mm :	+ 0.10
Rated speed rpm :	1340
guide sleeve	
travel mm :	11.50
Tolerance mm :	+ 0.50

GUIDE SLEEVE POSITION

Rated speed rpm :	700
Rack travel in mm :	15.50
Tolerance mm :	+ 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1150
Aneroid pressure	
hPa :	-
Del. quantity	
cm ³ /1000 strokes :	126.0
Tolerance	
cm ³ /1000 strokes :	+ 1.0
Check tolerance	
cm ³ /1000S. :	+ 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes :	6.0
Check tolerance	
cm ³ /1000S. :	10.0

RATED SPEED

control lever	
position degree :	36.0
tolerance degree :	+ 4.0
control lever	
position degree :	98.0
tolerance degree :	+ 4.0
rack travel mm :	10.80
Rated speed rpm :	1203
Tolerance 1/min :	+ 5
rack travel mm :	4.00
Rated speed rpm :	1260
Tolerance 1/min :	+ 15
rack travel mm :	0.50
Tolerance mm :	+ 0.50
Rated speed rpm :	1350

LOW IDLE

control lever	
position degree :	77.0
tolerance degree :	+ 4.0

control lever
position degree : 14.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 8.10
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : +- 20

Rated speed rpm : 150

CRT mm min. : > 9.90

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 11.80
Tolerance mm : +- 0.05

Rated speed rpm : 650
rack travel mm : 11.80
Tolerance mm : +- 0.10

START CUT-OUT

Rated speed rpm : < 170
Check
speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 127.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

BREAKAWAY

Rack travel in mm : 10.80
Rated speed rpm : 1203
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 8.10
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.09.95
Test oil : ISO 4113

Combination No. : 0 401 876 789

Injection pump
Pump designation : PE6P120A320RS3189
EP type number : 0 411 826 759

Governor
Governor design. : RSV650...750P4A421
: -13
Governor no. : 0 421 833 466

Cust. part No. : 864818 P04 v. 12/95

Customer-spec. information
Customer : PENTA
Motor : TD710G

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration
damper
(RoBo diaphragm) : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 195
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.65
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 9.00
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 180.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 650

Rack travel in mm : 3.20
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 22.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 5.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 180.0
Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 92.0
tolerance degree : ± 4.0

rack travel mm : 8.00
Rated speed rpm : 753
Tolerance 1/min : ± 3

rack travel mm : 4.00
Rated speed rpm : 779
Tolerance 1/min : ± 7

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 900

LOW IDLE

control lever
position degree : 86.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 650
rack travel mm : 3.20
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 660
Tolerance 1/min : ± 30

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 9.00
Tolerance mm : ± 0.05

BREAKAWAY

Rack travel in mm : 8.00
Rated speed rpm : 753
Tolerance 1/min : \pm 3

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50

LOW IDLE

Rated speed rpm : 650
rack travel mm : 3.20
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Speed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.06.95
Test oil : ISO 4113

Combination No. : 0 401 876 792

Injection pump
Pump designation : PE6P120A32ORS3313
EP type number : 0 411 826 807

Governor
Governor design. : RSV350...1100P8A558
Governor no. : 0 421 833 397

Cust. part No. : 1342533

Customer-spec. information
Customer : SCANIA
Motor : D9

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper
(RoBo diaphragm) : 4.2

Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : +- 0.1

Test nozzle holder assembly : 1 688 901 104

Opening pressure bar : 251.5
Tolerance bar : +- 1.5

F07

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 4.45
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : +- 0.30
Check tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.65
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 144.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 350

Rack travel in mm : 5.10
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

governor spring
pre-tension
click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 144.0
Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 60.0
tolerance degree : +- 4.0

control lever
position degree : 110.0
tolerance degree : +- 4.0

rack travel mm : 10.60
Rated speed rpm : 1145
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1210
Tolerance 1/min : +- 15

rack travel mm : 0.85
Tolerance mm : +- 0.55
Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1225

LOW IDLE

control lever
position degree : 78.0
tolerance degree : +- 4.0

control lever
position degree : 28.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 4.60

Testing:

Rated speed rpm : 350
rack travel mm : 5.10
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 550

Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 11.65
Tolerance mm : + 0.05

Rated speed rpm : 1100
rack travel mm : 11.65
Tolerance mm : + 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.65
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.30
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 210
rack travel mm : 10.70
Tolerance mm : + 0.15

Pressure hPa : 280
rack travel mm : 11.15
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : + 4.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 106.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 10.60
Rated speed rpm : 1145
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.30
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 5.10
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.09.95
Test oil : ISO 4113

Combination No. : 0 401 876 800

Injection pump
Pump designation : PE6P120A320RS3313
EP type number : 0 411 826 807

Governor
Governor design. : RSV350...1050P8A558
 : -1
Governor no. : 0 421 833 423

Cust. part No. : 1351267

Customer-spec. information
Customer : SCANIA
Motor : D9

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper
(RoBo diaphragm) : 4.2

Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : +- 0.1

Test nozzle holder assembly : 1 688 901 104

Opening pressure bar : 251.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 4.45
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : +- 0.30
Check tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.35
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 160.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 350

Rack travel in mm : 5.10
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

governor spring
pre-tension
click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 56.0
tolerance degree : +- 4.0

control lever
position degree : 106.0
tolerance degree : +- 4.0

rack travel mm : 10.10
Rated speed rpm : 1095
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1170
Tolerance 1/min : +- 15

rack travel mm : 0.85
Tolerance mm : +- 0.55
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 77.0
tolerance degree : +- 4.0

control lever
position degree : 28.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 4.60

Testing:

Rated speed rpm : 350
rack travel mm : 5.10
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 550
Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 12.35
Tolerance mm : +- 0.05

Rated speed rpm : 1050
rack travel mm : 11.15
Tolerance mm : +- 0.05

Rated speed rpm : 925
rack travel mm : 11.95
Tolerance mm : +- 0.10

Rated speed rpm : 950
rack travel mm : 11.50
Tolerance mm : +- 0.15

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.35
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.50
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 230
rack travel mm : 10.95
Tolerance mm : +- 0.15

Pressure hPa : 310
rack travel mm : 11.35
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : +- 4.0

F12

Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 114.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 10.10
Rated speed rpm : 1095
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.50
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 5.10
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.06.95
Test oil : ISO 4113

Combination No. : 0 401 876 806

Injection pump
Pump designation : PE6P120A320RS3313
EP type number : 0 411 826 807

Governor
Governor design. : RSV350...1100P8A558
: -2
Governor no. : 0 421 833 474

Cust. part No. : 1376947

Customer-spec. information
Customer : SCANIA
Motor : D 9

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper
(RoBo diaphragm) : 4.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holder assembly : 1 688 901 104

Opening pressure bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30

Check tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.65
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 144.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 350

Rack travel in mm : 5.10
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

governor spring
pre-tension
click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 144.0
Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 63.0
tolerance degree : +- 4.0

control lever
position degree : 113.0
tolerance degree : +- 4.0

rack travel mm : 10.60
Rated speed rpm : 1145
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1210
Tolerance 1/min : +- 15

rack travel mm : 0.85
Tolerance mm : +- 0.55
Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1225

LOW IDLE

control lever
position degree : 77.0
tolerance degree : +- 4.0

control lever
position degree : 28.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 4.60

Testing:

Rated speed rpm : 350
rack travel mm : 5.10
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 550

Tolerance 1/min : ± 30

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 11.65
Tolerance mm : ± 0.05

Rated speed rpm : 1100
rack travel mm : 11.65
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.65
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.50
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 230
rack travel mm : 10.95
Tolerance mm : ± 0.15

Pressure hPa : 310
rack travel mm : 11.35
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 114.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.60
Rated speed rpm : 1145
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.50
Tolerance mm : ± 0.20

LOW IDLE

Rated speed rpm : 350
rack travel mm : 5.10
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.06.95
Test oil : ISO 4113

Combination No. : 0 401 876 807

Injection pump
Pump designation : PE6P120A32ORS3313
EP type number : 0 411 826 807

Governor
Governor design. : RSV350...1100P8A558
: -3
Governor no. : 0 421 833 475

Cust. part No. : 1374851

Customer-spec. information
Customer : SCANIA
Motor : DSI9 43M

TEST BENCH REQUIREMENTS

inlet line : 3.1

Vibration
damper
(RoBo diaphragm) : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 190
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance *NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.85
 Tolerance mm : +- 0.05

 Del. quantity
 cm³/1000 strokes : 205.0

 Tolerance
 cm³/1000 strokes : +- 1.0

 Check tolerance
 cm³/1000S. : +- 4.0

 Spreed
 Tolerance
 cm³/1000 strokes : 8.0

 Check tolerance
 cm³/1000S. : 12.0

 Rated speed rpm : 350

 Rack travel in mm : 5.10
 Tolerance mm : +- 0.30
 Del. quantity
 cm³/1000 strokes : 18.0
 Tolerance
 cm³/1000 strokes : +- 3.0
 Check tolerance
 cm³/1000S. : +- 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : +- 0.20
 governor spring
 pre-tension
 click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure
 hPa : -

Del. quantity
 cm³/1000 strokes : 205.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

RATED SPEED

control lever
 position degree : 63.0
 tolerance degree : +- 4.0

control lever
 position degree : 113.0
 tolerance degree : +- 4.0

rack travel mm : 12.80
 Rated speed rpm : 1145
 Tolerance 1/min : +- 5

rack travel mm : 4.00
 Rated speed rpm : 1230
 Tolerance 1/min : +- 15

rack travel mm : 0.85
 Tolerance mm : +- 0.55
 Rated speed rpm : 1350

rack travel mm : 4.00
 Rated speed rpm : 1240

LOW IDLE

control lever
 position degree : 77.0
 tolerance degree : +- 4.0

control lever
 position degree : 28.0
 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
 rack travel mm : 4.60

Testing:

Rated speed rpm : 350
 rack travel mm : 5.10

Tolerance mm : +- 0.10
rack travel mm : 2.00
Rated speed rpm : 525
Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.85
Tolerance mm : +- 0.05

Rated speed rpm : 1100
rack travel mm : 13.85
Tolerance mm : +- 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.85
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.50
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 320
rack travel mm : 11.15
Tolerance mm : +- 0.20

Pressure hPa : 610
rack travel mm : 12.85
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : +- 4.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 114.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 12.80
Rated speed rpm : 1145
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.50
Tolerance mm : +- 0.20

LOW IDLE

Rated speed rpm : 350
rack travel mm : 5.10
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.09.95
Test oil : ISO 4113

Combination No. : 0 401 878 718

Injection pump
Pump designation : PE8P110A320LS3862
EP type number : 0 411 818 727

Governor
Governor design. : RSV350...1050POA617
Governor no. : 0 421 833 508

Cust. part No. : 0260749502

Customer-spec. information
Customer : MB-NFZ
Motor : OM442
Power KW : 195.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 008

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Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 115.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 3.5

Spread
Tolerance
cm³/1000 strokes : 8.5

Check tolerance
cm³/1000S. : 13.0

Rated speed rpm : 350

Rack travel in mm : 7.60
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 5.5

Spread
Tolerance
cm³/1000 strokes : 6.5
Check tolerance
cm³/1000S. : 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 115.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.5
Spread
Tolerance
cm³/1000 strokes : 8.5
Check tolerance
cm³/1000S. : 13.0

RATED SPEED

control lever
position degree : 96.0
tolerance degree : + 4.0

rack travel mm : 10.90
Rated speed rpm : 1095
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1165
Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.80
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 405
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.90
Tolerance mm : + 0.05

Rated speed rpm : 600
rack travel mm : 11.90
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : -
 Rated speed rpm : 600
 Del. quantity
 cm³/1000 strokes : 122.0
 Tolerance
 cm³/1000 strokes : ± 3.0
 Check tolerance
 cm³/1000S. : ± 5.5
 Spreed
 Tolerance
 cm³/1000 strokes : 11.0
 Check tolerance
 cm³/1000S. : 14.0

 BREAKAWAY

Rack travel in mm : 10.90
 Rated speed rpm : 1095
 Tolerance 1/min : ± 5

 STARTING FUEL DELIVERY

Rated speed rpm : 100
 Del. quantity
 cm³/1000 strokes : 140.0
 Tolerance
 cm³/1000 strokes : ± 10.0
 Check tolerance
 cm³/1000S. : ± 14.0

 LOW IDLE

Rated speed rpm : 350
 rack travel mm : 7.60
 Tolerance mm : ± 0.30
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : ± 3.0
 Check tolerance
 cm³/1000S. : ± 5.5
 Spreed
 Tolerance
 cm³/1000 strokes : 6.5
 Check tolerance
 cm³/1000S. : 11.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.09.95
Test oil : ISO 4113

Combination No. : 0 402 046 869

Injection pump
Pump designation : PES6P110A320RS3349
EP type number : 0 412 016 753

Governor
Governor design. : RQV350...1400PA1220K
Governor no. : 0 421 815 471

Cust. part No. : 16700-08801

Customer-spec. information
Customer : NISSAN-MISA
Motor : M 3.6 TI N
Power KW : 150.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 100
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance *NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 15.40
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 172.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 3.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 9.80
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 28.0

Tolerance
cm³/1000 strokes : +- 2.5

Check tolerance
cm³/1000S. : + 5.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.46
Tolerance mm : + 0.20

Rated speed rpm : 1422
guide sleeve
travel mm : 10.03
Tolerance mm : + 0.15

Rated speed rpm : 996
guide sleeve
travel mm : 6.78
Tolerance mm : + 0.25

Rated speed rpm : 610
guide sleeve
travel mm : 3.96
Tolerance mm : + 0.25

Rated speed rpm : 1730
guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 14.40
Tolerance mm : + 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 172.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : + 3.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 66.0
tolerance degree : + 4.0

control lever
position degree : 301.0
tolerance degree : + 4.0

rack travel mm : 14.40
Rated speed rpm : 1410
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1590
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1680

LOW IDLE

control lever
position degree : 262.0
tolerance degree : + 4.0

control lever
position degree : 27.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 9.80
Tolerance mm : ± 0.10

Rated speed rpm : 250

CRT mm min. : > 11.00

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 15.40
Tolerance mm : ± 0.05

Rated speed rpm : 780
rack travel mm : 13.90
Tolerance mm : ± 0.15

Rated speed rpm : 1000
rack travel mm : 14.30
Tolerance mm : ± 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1300
Pressure hPa : 1500
rack travel mm : 15.40
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1300
rack travel mm : 12.10
Tolerance mm : ± 0.20

Rated speed rpm : 1300

Pressure hPa : 425
rack travel mm : 12.80
Tolerance mm : ± 0.15

Pressure hPa : 775
rack travel mm : 14.60
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 270
Check
speed 1/min : > 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 780
Del. quantity
cm³/1000 strokes : 152.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 159.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 111.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 14.40
Rated speed rpm : 1410
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 9.80
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 28.0
Tolerance
cm³/1000 strokes : +- 2.5
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.09.95
Test oil : ISO 4113

Combination No. : 0 402 066 704

Injection pump
Pump designation : PES6P120A120RS3358
EP type number : 0 412 026 784

Governor
Governor design. : RSV475...1250P2A613
Governor no. : 0 421 833 501

Cust. part No. : 3927359

Customer-spec. information
Customer : CDC
Motor : 6BTA-590 ELITE
Power KW : 149.0

TEST BENCH REQUIREMENTS

inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50

Start of delivery blocking

*NW after s.o.d. : 7.50
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.90
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 152.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 475

Rack travel in mm : 5.50
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 22.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 152.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 110.0
tolerance degree : ± 4.0

rack travel mm : 11.90
Rated speed rpm : 1320
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1420
Tolerance 1/min : ± 15

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 84.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 475
rack travel mm : 5.50
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 570
Tolerance 1/min : ± 30

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 11.90
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 11.90
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.90
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.10
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 975
rack travel mm : 11.20
Tolerance mm : ± 0.20

Pressure hPa : 575
rack travel mm : 9.50
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 99.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 1320
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : ± 0.75
Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 25.0

LOW IDLE

Rated speed rpm : 475
rack travel mm : 5.50
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.09.95
Test oil : ISO 4113

Combination No. : 0 402 066 707

Injection pump
Pump designation : PES6P120A120RS3358
EP type number : 0 412 026 784

Governor
Governor design. : RSV475...1100P2A618
Governor no. : 0 421 833 513

Cust. part No. : 3927356

Customer-spec. information

Customer : CDC
Motor : 6BTA ELITE
Power KW : 136.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

*NW after s.o.d. : 6.75
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.00
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 155.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 475

Rack travel in mm : 5.60
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 24.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

governor spring
pre-tension
click setting x : 2.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 155.5
Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 100.0
tolerance degree : ± 4.0

rack travel mm : 11.00
Rated speed rpm : 1145
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1230
Tolerance 1/min : ± 15

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 79.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 475
rack travel mm : 5.60
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 550
Tolerance 1/min : ± 30

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.00
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 12.00
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.00
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.60
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 900
rack travel mm : 11.60
Tolerance mm : +- 0.20

Pressure hPa : 600
rack travel mm : 10.50
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 108.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 11.00
Rated speed rpm : 1145
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : +- 0.75
Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 25.0

LOW IDLE

Rated speed rpm : 475
rack travel mm : 5.60
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.09.95
Test oil : ISO 4113

Combination No. : 0 402 636 800

Injection pump
Pump designation : PE6P130A720/3LS7827
EP type number : 0 412 636 814

Governor
Governor design. : RQV400...1150PA937
Governor no. : 0 421 813 823

Cust. part No. :

Customer-spec. information

Customer : IVECO-FIAT
Motor : 8262.43.001

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5

604

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.15
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 6- 5- 4- 3-
: 2

Phasing : 0-75-120-195-240
: -315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 11.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 269.5

Tolerance
cm³/1000 strokes : ± 1.5

Check tolerance
cm³/1000s. : ± 5.0

Speed

Tolerance
 cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 10.0

Rated speed rpm : 400

Rack travel in mm : 5.00
 Tolerance mm : +- 0.20

Del. quantity
 cm³/1000 strokes : 24.0
 Tolerance
 cm³/1000 strokes : +- 3.0

Check tolerance
 cm³/1000S. : +- 7.0

Spread
 Tolerance
 cm³/1000 strokes : 10.0
 Check tolerance
 cm³/1000S. : 14.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 400
 guide sleeve
 travel mm : 2.75
 Tolerance mm : +- 0.20

Rated speed rpm : 1204
 guide sleeve
 travel mm : 7.21
 Tolerance mm : +- 0.15

Rated speed rpm : 1150
 guide sleeve
 travel mm : 7.05
 Tolerance mm : +- 0.25

Rated speed rpm : 500
 guide sleeve
 travel mm : 4.50
 Tolerance mm : +- 0.25

Rated speed rpm : 650
 guide sleeve
 travel mm : 6.00
 Tolerance mm : +- 0.25

Rated speed rpm : 1390
 guide sleeve
 travel mm : 11.50
 Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 850
 Rack travel in mm : 17.50
 Tolerance mm : +- 1.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 269.5
 Tolerance
 cm³/1000 strokes : +- 1.5
 Check tolerance
 cm³/1000S. : +- 5.0

Spread
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

RATED SPEED

control lever
 position degree : 113.0
 tolerance degree : +- 4.0

rack travel mm : 10.70
 Rated speed rpm : 1195
 Tolerance 1/min : +- 5

rack travel mm : 4.00
 Rated speed rpm : 1255
 Tolerance 1/min : +- 15

rack travel mm : 0.50
 Tolerance mm : +- 0.50
 Rated speed rpm : 1350

rack travel mm : 4.00

LOW IDLE

control lever
 position degree : 72.0
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 400

rack travel mm : 5.00
Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 6.50

Rated speed rpm : 475

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 11.75
Tolerance mm : +- 0.05

Rated speed rpm : 700
rack travel mm : 11.75
Tolerance mm : +- 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 11.75
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.60
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 650
rack travel mm : 10.75
Tolerance mm : +- 0.05

Pressure hPa : 250
rack travel mm : 9.30
Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 278.5
Tolerance
cm³/1000 strokes : +- 3.5

Check tolerance
cm³/1000S. : +- 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 166.5
Tolerance
cm³/1000 strokes : +- 1.5
Check tolerance
cm³/1000S. : +- 5.0

BREAKAWAY

Rack travel in mm : 10.70
Rated speed rpm : 1195
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

LOW IDLE

Rated speed rpm : 400
rack travel mm : 5.00
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 7.0
Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.10.95
Test oil : ISO 4113
Combination No. : 0 402 640 842
Injection pump
Pump designation : PE12P120A520/5RS7304
EP type number : 0 412 620 838
Governor
Governor design. : RQV300...550/1050PA1
: 093
Governor no. : 0 421 814 067
Cust. part No. :

Customer-spec. information
Customer : MWM
Motor : TBD234-FAUN

TEST BENCH REQUIREMENTS

Inlet line : 3.1,3.2
Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 417 413 025
Overflow quantity
min. l/h : 170
Tolerance l/h : +- 10.0
Test nozzle holde
assembly : 1 688 901 019
Opening pressure
bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 075
Outside diameter : 8.0

G07

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0
Prestroke mm : 5.20
Tolerance mm : +- 0.05
test only : +- 0.10
Rack travel in mm : 19.50
Tolerance mm : +- 1.50
Firing order : 1- 2- 9-10- 5- 6
: - 11- 12- 3- 4
: - 7- 8
Phasing : 0-30-60-90-120-150
: -180-210-240-270
: -300-330
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050
Rack travel in mm : 13.60
Tolerance mm : +- 0.05
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : +- 1.0

<hr/>	
Check tolerance	
cm ³ /1000S.	: + 4.0
<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes	: 6.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
<hr/>	
Rated speed rpm	: 300
<hr/>	
Rack travel in mm	: 6.75
Tolerance mm	: + 0.20
Del. quantity	
cm ³ /1000 strokes	: 38.0
Tolerance	
cm ³ /1000 strokes	: + 5.0
Check tolerance	
cm ³ /1000S.	: + 8.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 1.30
Tolerance mm	: + 0.25
<hr/>	
Rated speed rpm	: 1107
guide sleeve	
travel mm	: 6.75
Tolerance mm	: + 0.25
<hr/>	
Rated speed rpm	: 1050
guide sleeve	
travel mm	: 6.00
Tolerance mm	: + 0.25
<hr/>	
Rated speed rpm	: 586
guide sleeve	
travel mm	: 5.55
Tolerance mm	: + 0.25
<hr/>	
Rated speed rpm	: 636
guide sleeve	
travel mm	: 6.00
Tolerance mm	: + 0.25
<hr/>	
Rated speed rpm	: 500

G08

guide sleeve	
travel mm	: 6.00
Tolerance mm	: + 0.25
<hr/>	
Rated speed rpm	: 1260
guide sleeve	
travel mm	: 11.50
Tolerance mm	: + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1190
<hr/>	
Rack travel in mm	: 12.60
Tolerance mm	: + 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1050
Aneroid pressure	
hPa	: 1250
Del. quantity	
cm ³ /1000 strokes	: 235.0
Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 51.0
tolerance degree	: + 4.0
<hr/>	
control lever	
position degree	: 115.0
tolerance degree	: + 4.0
<hr/>	
rack travel mm	: 12.60
Rated speed rpm	: 1095
Tolerance 1/min	: + 5
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rack travel mm	: 4.00
Rated speed rpm	: 1155
Tolerance 1/min	: + 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1300

LOW IDLE

control lever
position degree : 85.0
tolerance degree : ± 4.0

control lever
position degree : 20.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.75
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 8.80

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 13.60
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 13.60
Tolerance mm : ± 0.05

Rated speed rpm : 500
rack travel mm : 14.70
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 2000
rack travel mm : 14.70
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.00
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 225
rack travel mm : 10.70
Tolerance mm : ± 0.25

Pressure hPa : 595
rack travel mm : 12.20
Tolerance mm : ± 0.05

Pressure hPa : 1250
rack travel mm : 13.60
Tolerance mm : ± 0.05

Pressure hPa : 1450
rack travel mm : 13.95
Tolerance mm : ± 0.25

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1250
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 234.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 144.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.60
Rated speed rpm : 1095
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

rack travel mm : 20.50
Tolerance mm : +- 0.50
Del. quantity
cm³/1000 strokes : 274.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.75
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 38.0
Tolerance
cm³/1000 strokes : +- 5.0
Check tolerance
cm³/1000S. : +- 8.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.09.95
Test oil : ISO 4113
Combination No. : 0 402 646 657
Injection pump
Pump designation : PE6P130A32ORS7368
EP type number : 0 412 636 836
Governor
Governor design. : RQV250...1125PA1210K
Governor no. : 0 421 815 460

Cust. part No. : 866737-P03 V. 05/95

Customer-spec. information
Customer : PENTA
Motor : TAMD 122 P
Power KW : 426.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Vibration damper (RoBo diaphragm) : 4.1
Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 077
Inlet press. bar : 2.5
Tolerance bar : ± 0.1
Test nozzle holder assembly : 1 688 901 105
Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 4.45
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 7.00
Tolerance mm : ± 0.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check tolerance °Nw : ± 0.75
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1125
Rack travel in mm : 11.50
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	:	318.0
<hr/>		
Tolerance cm ³ /1000 strokes	:	+ 1.5
<hr/>		
Check tolerance cm ³ /1000S.	:	+ 5.0
<hr/>		
Spreed Tolerance cm ³ /1000 strokes	:	9.0
<hr/>		
Check tolerance cm ³ /1000S.	:	13.0
<hr/>		
Del. quantity cm ³ /1000 strokes	:	20.0
Tolerance cm ³ /1000 strokes	:	+ 3.0
Check tolerance cm ³ /1000S.	:	+ 6.0
Spreed Tolerance cm ³ /1000 strokes	:	7.0
Check tolerance cm ³ /1000S.	:	11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	300
guide sleeve travel mm	:	1.93
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm	:	1157
guide sleeve travel mm	:	11.17
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm	:	823
guide sleeve travel mm	:	7.14
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm	:	325
guide sleeve travel mm	:	2.31
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm	:	375
guide sleeve travel mm	:	2.96
Tolerance mm	:	+ 0.25

Rated speed rpm	:	490
guide sleeve travel mm	:	3.90
Tolerance mm	:	+ 0.25

Rated speed rpm	:	1320
guide sleeve travel mm	:	13.50
Tolerance mm	:	+ 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	:	1200
Rack travel in mm	:	10.50
Tolerance mm	:	+ 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1125
Aneroid pressure hPa	:	2000
Del. quantity cm ³ /1000 strokes	:	318.0
Tolerance cm ³ /1000 strokes	:	+ 1.5
Check tolerance cm ³ /1000S.	:	+ 5.0
Spreed Tolerance cm ³ /1000 strokes	:	9.0
Check tolerance cm ³ /1000S.	:	13.0

RATED SPEED

control lever position degree	:	70.0
tolerance degree	:	+ 4.0
<hr/>		
control lever position degree	:	122.0
tolerance degree	:	+ 4.0
<hr/>		
rack travel mm	:	10.50
Rated speed rpm	:	1165
Tolerance 1/min	:	+ 5
<hr/>		
rack travel mm	:	4.00
Rated speed rpm	:	1235
Tolerance 1/min	:	+ 15
<hr/>		
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	1300

LOW IDLE

control lever
position degree : 68.0
tolerance degree : ± 4.0

control lever
position degree : 16.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 260
rack travel mm : 4.70
Tolerance mm : ± 0.20

Rated speed rpm : 200

CRT mm min. : > 5.90

Rated speed rpm : 330

TORQUE CONTROL

Rated speed rpm : 1125
rack travel mm : 11.50
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : 10.65
Tolerance mm : ± 0.15

Rated speed rpm : 500
rack travel mm : 9.45
Tolerance mm : ± 0.15

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1125
Pressure hPa : 2000
rack travel mm : 11.50
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 7.00
Tolerance mm : ± 0.20

Rated speed rpm : 1125

Pressure hPa : 1300
rack travel mm : 4.10
Tolerance mm : ± 0.20

Pressure hPa : 120
rack travel mm : 0.25
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2000
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 315.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

Aneroid pressure
hPa : 2000
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 280.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 180.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 5.0

BREAKAWAY

Rack travel in mm : 10.50
Rated speed rpm : 1165
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 7.00
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 85.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 20.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.09.95
Test oil : ISO 4113

Combination No. : 0 402 736 889

Injection pump
Pump designation : PES6P120A120RS7390
EP type number : 0 412 726 945

Governor
Governor design. : RQV350...1100PA1244K
Governor no. : 0 421 815 477

Cust. part No. : 3282739

Customer-spec. information
Customer : CUMMINS
Motor : 6CTAA
Power KW : 179.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Overflow quantity min. l/h : 90
Tolerance l/h : ± 10.0

Test nozzle holder assembly : 1 688 901 101

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.90
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check tolerance °NW : ± 0.50

Start of delivery blocking

*NW after s.o.d. : 10.50
Tolerance : ± 0.50
Check tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.00

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 173.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 4.60
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.93
Tolerance mm : \pm 0.20

Rated speed rpm : 1159
guide sleeve
travel mm : 10.27
Tolerance mm : \pm 0.15

Rated speed rpm : 710
guide sleeve
travel mm : 5.79
Tolerance mm : \pm 0.25

Rated speed rpm : 420
guide sleeve
travel mm : 4.28
Tolerance mm : \pm 0.25

Rated speed rpm : 1380
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1195

Rack travel in mm : 12.00
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 173.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 68.0
tolerance degree : \pm 4.0

control lever
position degree : 122.0
tolerance degree : \pm 4.0

rack travel mm : 12.00
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1230
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 74.0
tolerance degree : ± 4.0

control lever
position degree : 20.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 4.60
Tolerance mm : ± 0.10

Rated speed rpm : 250
CRT mm min. : > 7.50

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.00
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : 13.15
Tolerance mm : ± 0.10

Rated speed rpm : 500
rack travel mm : 12.25
Tolerance mm : ± 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 700
Pressure hPa : 1500
rack travel mm : 13.20
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 700
rack travel mm : 10.20
Tolerance mm : ± 0.20

Rated speed rpm : 700

Pressure hPa : 140
rack travel mm : 11.10
Tolerance mm : ± 0.20

Pressure hPa : 300
rack travel mm : 12.60
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 290
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 171.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 109.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1145
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 255.0
Tolerance
cm³/1000 strokes : ± 20.0

Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 4.60
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.09.95
 Test oil : ISO 4113
 Combination No. : 0 402 746 603
 Injection pump
 Pump designation : PES6P120A320RS7359
 EP type number : 0 412 726 925
 Governor
 Governor design. : RQ275/1050PA999-7
 Governor no. : 0 421 801 799
 Cust. part No. : CCEP 5153 66-224

Customer-spec. information
 Customer : RVI
 Motor : MIHR062045 A41
 Power KW : 185.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
 Test oil inlet
 temp. °C : 40
 Tolerance °C : ± 2.0
 Overflow valve : 2 417 413 078
 Inlet press. bar : 2.5
 Tolerance bar : ± 0.1
 Test nozzle holder
 assembly : 1 688 901 101
 Opening pressure
 bar : 208.5
 Tolerance bar : ± 1.5
 Test lines : 1 680 750 008
 Outside diameter : 6.0

x inside diameter : 2.0
 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
 Set equal delivery quant.
 per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
 Tolerance bar : ± 1.0
 Prestroke mm : 4.70
 Tolerance mm : ± 0.05
 test only : ± 0.10
 Rack travel in mm : 20.25
 Tolerance mm : ± 0.75
 Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
 Tolerance : ± 0.30
 Check
 tolerance *NW : ± 0.50
 Start of delivery mark
 Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600
 Tolerance mm : ± 0.05
 Del. quantity
 cm³/1000 strokes : 191.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 4.0
 Speed

Tolerance
 cm³/1000 strokes : 5.0

 Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 275
 Rack travel in mm : -5.70
 Tolerance mm : +- 0.20
 Del. quantity
 cm³/1000 strokes : 34.0
 Tolerance
 cm³/1000 strokes : +- 2.0
 Check tolerance
 cm³/1000S. : +- 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
 guide sleeve
 travel mm : 1.75
 Tolerance mm : +- 0.20
 Rated speed rpm : 1145
 guide sleeve
 travel mm : 6.55
 Tolerance mm : +- 0.15
 Rated speed rpm : 1050
 guide sleeve
 travel mm : 6.00
 Tolerance mm : +- 0.10
 Rated speed rpm : 594
 guide sleeve
 travel mm : 5.11
 Tolerance mm : +- 0.10
 Rated speed rpm : 720
 guide sleeve
 travel mm : 6.00
 Tolerance mm : +- 0.10
 Rated speed rpm : 1380
 guide sleeve
 travel mm : 11.50
 Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : +- 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 191.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 274.0
 tolerance degree : +- 4.0
 rack travel mm : -1.00
 Rated speed rpm : 1138
 Tolerance 1/min : +- 5
 rack travel mm : -8.70
 Rated speed rpm : 1265
 Tolerance 1/min : +- 15
 rack travel mm : -12.20
 Tolerance mm : +- 0.50
 Rated speed rpm : 1375

LOW IDLE

control lever
 position degree : 255.0
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 275
 rack travel mm : -5.70
 Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 585
Tolerance 1/min : + 20

Rated speed rpm : 175
CRT mm min. : > -3.80

TORQUE CONTROL

Rated speed rpm : 600
Tolerance mm : + 0.05

Rated speed rpm : 1050
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -1.10
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 140
rack travel mm : -0.66
Tolerance mm : + 0.15

Pressure hPa : 200
rack travel mm : -0.25
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 195
Check
speed 1/min : < 215

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 198.0

Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 156.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1138
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

rack travel mm : 20.25
Tolerance mm : + 0.75
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : -5.70
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 34.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.10.95
Test oil : ISO 4113
Combination No. : 0 401 876 804

Injection pump
Pump designation : PE6P120A320RS3339
EP type number : 0 411 826 812

Governor
Governor design. : RSV325...1400POA590
Governor no. : 0 421 833 450

Cust. part No. : 3825199-P06 v. 9/95

Customer-spec. information
Customer : PENTA
Motor : TAMD63 L
Power kW : 228.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

G23

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 6.40
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 8.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 141.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000s. : ± 4.0

<hr/>	
Spreed	
Tolerance	
cm3/1000 strokes :	5.0
<hr/>	
Check tolerance	
cm3/1000S.	: 9.0
<hr/>	
Del. quantity	
cm3/1000 strokes :	23.0
Tolerance	
cm3/1000 strokes :	+ 3.0
Check tolerance	
cm3/1000S.	: + 6.0
Spreed	
Tolerance	
cm3/1000 strokes :	5.0
Check tolerance	
cm3/1000S.	: 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm :	800
Rack travel in mm :	0.55
Tolerance mm :	+ 0.25
<hr/>	
governor spring	
pre-tension	
click setting x :	5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1000
Aneroid pressure	
hPa :	2000
Del. quantity	
cm3/1000 strokes :	141.0
Tolerance	
cm3/1000 strokes :	+ 1.0
Check tolerance	
cm3/1000S.	: + 4.0
Spreed	
Tolerance	
cm3/1000 strokes :	5.0
Check tolerance	
cm3/1000S.	: 9.0

RATED SPEED

control lever	
position degree :	68.0
tolerance degree :	+ 4.0

control lever	
position degree :	118.0
tolerance degree :	+ 4.0

rack travel mm :	7.90
Rated speed rpm :	1470
Tolerance 1/min :	+ 5

rack travel mm :	4.00
Rated speed rpm :	1530
Tolerance 1/min :	+ 15

rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	1630

LOW IDLE

control lever	
position degree :	82.0
tolerance degree :	+ 4.0

control lever	
position degree :	32.0
tolerance degree :	+ 4.0

Setting point w/out bumper spring

Rated speed rpm :	325
rack travel mm :	3.30

Testing:

Rated speed rpm :	325
rack travel mm :	3.80
Tolerance mm :	+ 0.20

rack travel mm :	2.00
Rated speed rpm :	460
Tolerance 1/min :	+ 30

TORQUE CONTROL

Rated speed rpm :	1000
rack travel mm :	8.90
Tolerance mm :	+ 0.05

Rated speed rpm :	1400
rack travel mm :	8.90
Tolerance mm :	+ 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 2000
rack travel mm : 8.90
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 6.50
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 850
rack travel mm : 2.00
Tolerance mm : \pm 0.15

Pressure hPa : 490
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2000
Rated speed rpm : 1400
Del. quantity
cm³/1000 strokes : 128.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 93.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 7.90
Rated speed rpm : 1470

Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.00
Tolerance mm : \pm 0.25

LOW IDLE

Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.10.95
Test oil : ISO 4113
Combination No. : 0 401 876 809
Injection pump
Pump designation : PE6P120A320RS3355
EP type number : 0 411 826 814
Governor
Governor design. : RSV325...1200P1A605
Governor no. : 0 421 833 487
Cust. part No. : 3825834 P03 v. 9/95

Customer-spec. information
Customer : PENTA
Motor : TWD731ME
Power KW : 175.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 077
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holder assembly : 1 688 901 101
Opening pressure bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0

G26

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 3.45
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 7.40
Tolerance mm : ± 0.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check tolerance *NW : ± 0.75
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200
Rack travel in mm : 10.60
Tolerance mm : ± 0.05
Del. quantity cm3/1000 strokes : 126.0
Tolerance cm3/1000 strokes : ± 1.0
Check tolerance cm3/1000s. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

Rated speed rpm : 325

Rack travel in mm : 4.40
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 24.0

Tolerance
cm³/1000 strokes : ± 2.5

Check tolerance
cm³/1000S. : ± 5.0

Spread
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.85
Tolerance mm : ± 0.55

governor spring
pre-tension
click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200

Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 126.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

RATED SPEED

control lever
position degree : 71.0
tolerance degree : ± 4.0

control lever
position degree : 121.0
tolerance degree : ± 4.0

rack travel mm : 9.60
Rated speed rpm : 1235
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1280
Tolerance 1/min : ± 15

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 81.0
tolerance degree : ± 4.0

control lever
position degree : 31.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 3.90

Testing:

Rated speed rpm : 325
rack travel mm : 4.40
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : ± 30

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 10.60
Tolerance mm : ± 0.05

Rated speed rpm : 700

rack travel mm : 10.60
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 10.60
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 7.80
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 850
rack travel mm : 2.50
Tolerance mm : +- 0.15

Pressure hPa : 260
rack travel mm : 0.25
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 148.5
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 87.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 9.60
Rated speed rpm : 1235
Tolerance 1/min : +- 5

LOW IDLE

Rated speed rpm : 325
rack travel mm : 4.40
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : +- 2.5
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.10.95
 Test oil : ISO 4113
 Combination No. : 0 401 876 810
 Injection pump
 Pump designation : PE6P120A320RS3359
 EP type number : 0 411 826 815
 Governor
 Governor design. : RSV325...1200P1A615
 Governor no. : 0 421 833 503
 Cust. part No. : 3825515 P01 v. 5/95

Customer-spec. information
 Customer : PENTA
 Motor : TD 730ME
 Power KW : 150.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
 Test oil inlet temp. °C : 40
 Tolerance °C : ± 2.0
 Overflow valve : 2 417 413 077
 Inlet press. bar : 1.5
 Tolerance bar : ± 0.1
 Test nozzle holde assembly : 1 688 901 101
 Opening pressure bar : 208.5
 Tolerance bar : ± 1.5
 Test lines : 1 680 750 008
 Outside diameter : 6.0

H01

x inside diameter : 2.0
 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
 Set equal delivery quant.
 per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
 Tolerance bar : ± 1.0
 Prestroke mm : 3.35
 Tolerance mm : ± 0.05
 test only : ± 0.10
 Rack travel in mm : 9.00
 Tolerance mm : ± 0.50
 Firing order : 1- 5- 3- 6- 2-
 : 4
 Phasing : 0-60-120-180-240
 : -300
 Tolerance : ± 0.30
 Check tolerance °NW : ± 0.75
 Start of delivery mark
 Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200
 Rack travel in mm : 11.10
 Tolerance mm : ± 0.05
 Del. quantity cm³/1000 strokes : 130.0
 Tolerance cm³/1000 strokes : ± 1.0
 Check tolerance cm³/1000S. : ± 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 7.0

Check tolerance
 cm³/1000S. : 11.0

Rated speed rpm : 325

Rack travel in mm : 4.40
 Tolerance mm : +- 0.20

Del. quantity
 cm³/1000 strokes : 30.0
 Tolerance
 cm³/1000 strokes : +- 2.5
 Check tolerance
 cm³/1000S. : +- 5.0

Spreed
 Tolerance
 cm³/1000 strokes : 3.0
 Check tolerance
 cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.85
 Tolerance mm : +- 0.55

governor spring
 pre-tension
 click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
 Aneroid pressure
 hPa : 1500

Del. quantity
 cm³/1000 strokes : 130.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 7.0
 Check tolerance
 cm³/1000S. : 11.0

RATED SPEED

control lever
 position degree : 71.0
 tolerance degree : +- 4.0

control lever
 position degree : 118.0
 tolerance degree : +- 4.0

rack travel mm : 10.10
 Rated speed rpm : 1235
 Tolerance 1/min : +- 5

rack travel mm : 4.00
 Rated speed rpm : 1280
 Tolerance 1/min : +- 15

rack travel mm : 0.85
 Tolerance mm : +- 0.55
 Rated speed rpm : 1400

LOW IDLE

control lever
 position degree : 79.0
 tolerance degree : +- 4.0

control lever
 position degree : 31.0
 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 3.90

Testing:

Rated speed rpm : 325
 rack travel mm : 4.40
 Tolerance mm : +- 0.10

rack travel mm : 2.00
 Rated speed rpm : 390
 Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 1200
 rack travel mm : 11.10
 Tolerance mm : +- 0.05

Rated speed rpm : 700

rack travel mm : 11.10
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.00
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.80
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 770
rack travel mm : 1.85
Tolerance mm : ± 0.15

Pressure hPa : 390
rack travel mm : 0.25
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spread
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 89.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

H03

BREAKAWAY

Rack travel in mm : 10.10
Rated speed rpm : 1235
Tolerance 1/min : ± 5

LOW IDLE

Rated speed rpm : 325
rack travel mm : 4.40
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000S. : ± 5.0
Spread
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.10.95
Test oil : ISO 4113

Combination No. : 0 402 048 705

Injection pump
Pump designation : PES8P120A320RS3199
EP type number : 0 412 028 705

Governor
Governor design. : RQV275...1050PA665
Governor no. : 0 421 813 370

Cust. part No. :

Customer-spec. information

Customer : RVI
Motor : MIVR083530
Power KW : 320.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 8- 4- 2- 7
: - 3- 6- 5

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

°NW after s.o.d. : 13.00

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Del. quantity
cm³/1000 strokes : 203.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : -7.50
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 0.89
Tolerance mm : + 0.20

Rated speed rpm : 1135
guide sleeve
travel mm : 8.32
Tolerance mm : + 0.15

Rated speed rpm : 781
guide sleeve
travel mm : 5.68
Tolerance mm : + 0.25

Rated speed rpm : 480
guide sleeve
travel mm : 3.60
Tolerance mm : + 0.25

Rated speed rpm : 1430
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1250

Rack travel in mm : 10.45
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure
hPa : 700

Del. quantity
cm³/1000 strokes : 203.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 65.0
tolerance degree : + 4.0

control lever
position degree : 300.0
tolerance degree : + 4.0

rack travel mm : -1.00
Rated speed rpm : 1120
Tolerance 1/min : + 5

rack travel mm : -7.45
Rated speed rpm : 1225
Tolerance 1/min : + 15

rack travel mm : -10.95
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 245.0
tolerance degree : + 4.0

control lever
position degree : 10.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 200
CRT mm max. : < -5.80
Rated speed rpm : 343

TORQUE CONTROL

Rated speed rpm : 1050
Rated speed rpm : 650

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -2.60
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 360
rack travel mm : -1.90
Tolerance mm : +- 0.10

Pressure hPa : 420
rack travel mm : -0.75
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 195
Check
speed 1/min : < 215

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 192.0
Tolerance
cm³/1000 strokes : +- 4.0
Check tolerance
cm³/1000S. : +- 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 111.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1120
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 175.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : -7.50
Tolerance mm : +- 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.10.95
Test oil : ISO 4113

Combination No. : 0 402 646 644

Injection pump
Pump designation : PE6P120A320RS7319
EP type number : 0 412 626 914

Governor
Governor design. : RQV300...1400PA1124
Governor no. : 0 421 814 086

Cust. part No. : 866633 P03 5.10.95

Customer-spec. information
Customer : PENTA
Motor : TAMD 63
Power kW : 265.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

H07

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.65
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 241.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

Del. quantity
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 5.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.24
Tolerance mm : + 0.25

Rated speed rpm : 1456
guide sleeve
travel mm : 7.69
Tolerance mm : + 0.25

Rated speed rpm : 1170
guide sleeve
travel mm : 5.67
Tolerance mm : + 0.25

Rated speed rpm : 448
guide sleeve
travel mm : 2.83
Tolerance mm : + 0.25

Rated speed rpm : 498
guide sleeve
travel mm : 3.20
Tolerance mm : + 0.25

Rated speed rpm : 690
guide sleeve
travel mm : 3.68
Tolerance mm : + 0.25

Rated speed rpm : 1638

guide sleeve
travel mm : 10.00
Tolerance mm : + 0.25

Rated speed rpm : 1760
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1640

Rack travel in mm : 9.00
Tolerance mm : + 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 2000

Del. quantity
cm³/1000 strokes : 241.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

RATED SPEED

control lever
position degree : 54.0
tolerance degree : + 4.0

control lever
position degree : 118.0
tolerance degree : + 4.0

rack travel mm : 12.30
Rated speed rpm : 1440
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1570
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1650

LOW IDLE

control lever
position degree : 81.0
tolerance degree : +- 4.0

control lever
position degree : 17.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.40
Tolerance mm : +- 0.20

Rated speed rpm : 200

CRT mm min. : > 6.80

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 12.90
Tolerance mm : +- 0.05

Rated speed rpm : 1400
rack travel mm : 12.90
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 2000
rack travel mm : 13.30
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.20
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 1400
rack travel mm : 4.70
Tolerance mm : +- 0.20

H09

Pressure hPa : 430
rack travel mm : 0.25
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2000
Rated speed rpm : 1400
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 84.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 1440
Tolerance 1/min : +- 5

LOW IDLE

Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.10.95
Test oil : ISO 4113
Combination No. : D 402 648 931B
Injection pump
Pump designation : PE8P120A320LS7847-3
EP type number : 0 412 628 886

Governor
Governor design. : RQ300/950PA1032-7
Governor no. : 0 421 801 715

Cust. part No. : 0230741302

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 239.0

Tolerance
 cm³/1000 strokes : +- 1.0

Check tolerance
 cm³/1000S. : +- 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.70
 Tolerance mm : +- 0.30

Del. quantity
 cm³/1000 strokes : 13.0

Tolerance
 cm³/1000 strokes : +- 3.0

Check tolerance
 cm³/1000S. : +- 6.0

Spreed
 Tolerance
 cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.74
 Tolerance mm : +- 0.10

Rated speed rpm : 1005
 guide sleeve
 travel mm : 6.84
 Tolerance mm : +- 0.10

Rated speed rpm : 950
 guide sleeve
 travel mm : 6.50
 Tolerance mm : +- 0.10

Rated speed rpm : 736
 guide sleeve
 travel mm : 6.13
 Tolerance mm : +- 0.10

Rated speed rpm : 415
 guide sleeve
 travel mm : 3.82
 Tolerance mm : +- 0.10

Rated speed rpm : 550
 guide sleeve
 travel mm : 6.00
 Tolerance mm : +- 0.10

Rated speed rpm : 1160
 guide sleeve
 travel mm : 11.50
 Tolerance mm : +- 0.50

Rated speed rpm : 833
 guide sleeve
 travel mm : 6.38
 Tolerance mm : +- 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
 Tolerance mm : +- 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure
 hPa : 1200

Del. quantity
 cm³/1000 strokes : 239.0

Tolerance
 cm³/1000 strokes : +- 1.0

Check tolerance
 cm³/1000S. : +- 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 97.0
 tolerance degree : +- 4.0

rack travel mm : 13.15
 Rated speed rpm : 998
 Tolerance 1/min : +- 8

rack travel mm : 4.00
 Rated speed rpm : 1085
 Tolerance 1/min : +- 15

rack travel mm : 0.75
 Tolerance mm : +- 0.75

Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 420
Tolerance 1/min : +- 20

Rated speed rpm : 200

CRT mm min. : > 7.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.80
Tolerance mm : +- 0.05

Rated speed rpm : 950
rack travel mm : 14.15
Tolerance mm : +- 0.10

Rated speed rpm : 860
rack travel mm : 14.35
Tolerance mm : +- 0.10

Rated speed rpm : 820
rack travel mm : 14.65
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 14.80
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.60

Tolerance mm : +- 0.20

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 11.90
Tolerance mm : +- 0.15

Pressure hPa : 450
rack travel mm : 12.90
Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 216.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.15
Rated speed rpm : 998
Tolerance 1/min : +- 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.60

Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.10.95
Test oil : ISO 4113

Combination No. : 0 402 648 931C

Injection pump
Pump designation : PE8P120A320LS7847-2
EP type number : 0 412 628 885

Governor
Governor design. : RQ300/950PA1032-7
Governor no. : 0 421 801 715

Cust. part No. : 0230741302

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark
Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 239.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

Spread
 Tolerance
 cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.70
 Tolerance mm : + 0.30

Del. quantity
 cm³/1000 strokes : 13.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0

Spread
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.74
 Tolerance mm : + 0.10

Rated speed rpm : 1005
 guide sleeve
 travel mm : 6.84
 Tolerance mm : + 0.10

Rated speed rpm : 950
 guide sleeve
 travel mm : 6.50
 Tolerance mm : + 0.10

Rated speed rpm : 736
 guide sleeve
 travel mm : 6.13
 Tolerance mm : + 0.10

Rated speed rpm : 415
 guide sleeve
 travel mm : 3.82
 Tolerance mm : + 0.10

Rated speed rpm : 550
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + 0.10

Rated speed rpm : 1160
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

Rated speed rpm : 833
 guide sleeve
 travel mm : 6.38
 Tolerance mm : + 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
 Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure
 hPa : 1200

Del. quantity
 cm³/1000 strokes : 239.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0

Spread
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 97.0
 tolerance degree : + 4.0

rack travel mm : 13.15
 Rated speed rpm : 998
 Tolerance 1/min : + 8

rack travel mm : 4.00
 Rated speed rpm : 1085
 Tolerance 1/min : + 15

rack travel mm : 0.75
 Tolerance mm : + 0.75

Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 420
Tolerance 1/min : +- 20

Rated speed rpm : 200
CRT mm min. : > 7.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.80
Tolerance mm : +- 0.05

Rated speed rpm : 950
rack travel mm : 14.15
Tolerance mm : +- 0.10

Rated speed rpm : 860
rack travel mm : 14.35
Tolerance mm : +- 0.10

Rated speed rpm : 820
rack travel mm : 14.65
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 14.80
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.60

Tolerance mm : +- 0.20

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 11.90
Tolerance mm : +- 0.15

Pressure hPa : 450
rack travel mm : 12.90
Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 216.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.15
Rated speed rpm : 998
Tolerance 1/min : +- 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.60

Tolerance mm : +- 0.50
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.10.95
Test oil : ISO 4113

Combination No. : 0 402 648 933

Injection pump
Pump designation : PE8P120A320LS7847-3
EP type number : 0 412 628 886

Governor
Governor design. : RQ300/950PA1031-14
Governor no. : 0 421 801 720

Cust. part No. : 0230742702

Customer-spec. information
Customer : MB-NFZ
Motor : OM402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance L/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark
Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 239.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
 cm³/1000S. : +- 4.0

 Spreed
 Tolerance
 cm³/1000 strokes : 6.0

 Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 300
 Rack travel in mm : 5.70
 Tolerance mm : +- 0.30
 Del. quantity
 cm³/1000 strokes : 13.0
 Tolerance
 cm³/1000 strokes : +- 3.0
 Check tolerance
 cm³/1000S. : +- 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.62
 Tolerance mm : +- 0.10
 Rated speed rpm : 1009
 guide sleeve
 travel mm : 6.84
 Tolerance mm : +- 0.10
 Rated speed rpm : 950
 guide sleeve
 travel mm : 6.50
 Tolerance mm : +- 0.10
 Rated speed rpm : 739
 guide sleeve
 travel mm : 6.13
 Tolerance mm : +- 0.10
 Rated speed rpm : 443
 guide sleeve
 travel mm : 4.35
 Tolerance mm : +- 0.10
 Rated speed rpm : 550

guide sleeve
 travel mm : 6.00
 Tolerance mm : +- 0.10
 Rated speed rpm : 1160
 guide sleeve
 travel mm : 11.50
 Tolerance mm : +- 0.50
 Rated speed rpm : 835
 guide sleeve
 travel mm : 6.38
 Tolerance mm : +- 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : +- 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 239.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 97.0
 tolerance degree : +- 4.0
 rack travel mm : 13.15
 Rated speed rpm : 998
 Tolerance 1/min : +- 8
 rack travel mm : 4.00
 Rated speed rpm : 1085
 Tolerance 1/min : +- 15
 rack travel mm : 0.75
 Tolerance mm : +- 0.75
 Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 70.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 350
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 5.50

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.80
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 14.15
Tolerance mm : ± 0.10

Rated speed rpm : 860
rack travel mm : 14.35
Tolerance mm : ± 0.10

Rated speed rpm : 820
rack travel mm : 14.65
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 14.80
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.60
Tolerance mm : ± 0.20

Rated speed rpm : 400

Pressure hPa : 300
rack travel mm : 11.90
Tolerance mm : ± 0.15

Pressure hPa : 450
rack travel mm : 12.90
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 220

Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 216.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 107.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.15
Rated speed rpm : 998
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.10.95
Test oil : ISO 4113

Combination No. : 0 402 744 801

Injection pump
Pump designation : PES4P120A32ORS7380
EP type number : 0 412 724 802

Governor
Governor design. : RQV275...1200PA1232K
Governor no. : 0 421 815 469

Cust. part No. : CCEP 5149 66-237

Customer-spec. information

Customer : RVI
Motor : MIDR 04-02-26 B4
Power KW : 110.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Overflow quantity
min. l/h : 95
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.00
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 11.00
Tolerance mm : ± 0.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Del. quantity
cm³/1000 strokes : 236.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 325

Rack travel in mm : -6.10
Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 40.0

Tolerance
cm³/1000 strokes : +- 2.0

Check tolerance
cm³/1000S. : +- 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
guide sleeve
travel mm : 1.57
Tolerance mm : +- 0.25

Rated speed rpm : 1381
guide sleeve
travel mm : 10.37
Tolerance mm : +- 0.25

Rated speed rpm : 940
guide sleeve
travel mm : 6.87
Tolerance mm : +- 0.25

Rated speed rpm : 390
guide sleeve
travel mm : 2.39
Tolerance mm : +- 0.25

Rated speed rpm : 440
guide sleeve
travel mm : 2.90
Tolerance mm : +- 0.25

Rated speed rpm : 560
guide sleeve
travel mm : 4.01
Tolerance mm : +- 0.25

Rated speed rpm : 1650

guide sleeve
travel mm : 13.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 11.10
Tolerance mm : +- 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 236.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 302.0
tolerance degree : +- 4.0

rack travel mm : -1.00
Rated speed rpm : 1270
Tolerance 1/min : +- 5

rack travel mm : -8.20
Rated speed rpm : 1465
Tolerance 1/min : +- 15

rack travel mm : -11.70
Tolerance mm : +- 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 253.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 325
rack travel mm : -6.10
Tolerance mm : +- 0.10

Rated speed rpm : 200
CRT mm min. : < -4.60
Rated speed rpm : 390

TORQUE CONTROL

Rated speed rpm : 1200
Rated speed rpm : 700
rack travel mm : -1.15
Tolerance mm : +- 0.10
Rated speed rpm : 350
rack travel mm : -2.90
Tolerance mm : +- 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1200
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -4.20
Tolerance mm : +- 0.20

Rated speed rpm : 1200
Pressure hPa : 320
rack travel mm : -3.60
Tolerance mm : +- 0.20

Pressure hPa : 520
rack travel mm : -2.50
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 275
Check
speed 1/min : < 285

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 237.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1270
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : -6.10
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 40.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.10.95
Test oil : ISO 4113

Combination No. : 0 402 746 994

Injection pump
Pump designation : PES6P120A320RS7344
EP type number : 0 412 726 914

Governor
Governor design. : RQV275...1000PA1161
Governor no. : 0 421 814 100

Cust. part No. : CCEP 5143A 66-231

Customer-spec. information
Customer : RVI
Motor : MIDR 062045 E/41
Power kW : 249.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 4.50
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 11.00
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Del. quantity
cm³/1000 strokes : 282.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 300
 Rack travel in mm : -7.50
 Tolerance mm : +- 0.20
 Del. quantity
 cm³/1000 strokes : 32.0
 Tolerance
 cm³/1000 strokes : +- 2.0
 Check tolerance
 cm³/1000S. : +- 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.66
 Tolerance mm : +- 0.25
 Rated speed rpm : 1086
 guide sleeve
 travel mm : 8.09
 Tolerance mm : +- 0.25
 Rated speed rpm : 793
 guide sleeve
 travel mm : 6.00
 Tolerance mm : +- 0.25
 Rated speed rpm : 343
 guide sleeve
 travel mm : 2.33
 Tolerance mm : +- 0.25
 Rated speed rpm : 393
 guide sleeve
 travel mm : 2.95
 Tolerance mm : +- 0.25
 Rated speed rpm : 500
 guide sleeve
 travel mm : 3.72
 Tolerance mm : +- 0.25
 Rated speed rpm : 1410
 guide sleeve
 travel mm : 11.50

H28

Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1235
 Rack travel in mm : 11.70
 Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 282.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 120.0
 tolerance degree : +- 4.0
 rack travel mm : -1.00
 Rated speed rpm : 1080
 Tolerance 1/min : +- 5
 rack travel mm : -8.60
 Rated speed rpm : 1215
 Tolerance 1/min : +- 15
 rack travel mm : -12.10
 Tolerance mm : +- 0.50
 Rated speed rpm : 1300

LOW IDLE

control lever
 position degree : 65.0
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 200

CRT mm max. : < -5.50
Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 600
Rated speed rpm : 1000
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -3.40
Tolerance mm : +- 0.30

Rated speed rpm : 500

Pressure hPa : 320
rack travel mm : -2.65
Tolerance mm : +- 0.15

Pressure hPa : 640
rack travel mm : -0.70
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 225
Check
speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 283.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 122.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1080
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : +- 0.75
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : -7.50
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 32.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.10.95
Test oil : ISO 4113

Combination No. : 0 402 946 018

Injection pump
Pump designation : PE6P120A72ORS8041
EP type number : 0 412 926 027

Governor
Governor design. : RQV250...950PA1253
Governor no. : 0 421 814 166

Cust. part No. : 1383215

Customer-spec. information
Customer : SCANIA
Motor : DSC 11.75

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 689 750 008

Outside diameter : 6.0

J02

x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with RO80 diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance *NW : ± 0.50

Start of delivery blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.20
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 261.0

Tolerance
cm³/1000 strokes : ± 1.0

<hr/>	
Check tolerance cm ³ /1000S.	: ± 4.0
<hr/>	
Spreed Tolerance cm ³ /1000 strokes	: 8.0
<hr/>	
Check tolerance cm ³ /1000S.	: 12.0
Rated speed rpm	: 250
Rack travel in mm	: 5.60
Tolerance mm	: ± 0.30
Del. quantity cm ³ /1000 strokes	: 16.0
Tolerance cm ³ /1000 strokes	: ± 3.0
Check tolerance cm ³ /1000S.	: ± 6.0
Spreed Tolerance cm ³ /1000 strokes	: 4.0
Check tolerance cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 250
guide sleeve travel mm	: 1.31
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 1006
guide sleeve travel mm	: 7.25
Tolerance mm	: ± 0.15
<hr/>	
Rated speed rpm	: 673
guide sleeve travel mm	: 4.96
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 420
guide sleeve travel mm	: 3.37
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1390
guide sleeve travel mm	: 11.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1235
Rack travel in mm	: 10.20
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure hPa	: 1500
Del. quantity cm ³ /1000 strokes	: 261.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Spreed Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

RATED SPEED

control lever position degree	: 59.0
tolerance degree	: ± 4.0
<hr/>	
control lever position degree	: 112.0
tolerance degree	: ± 4.0
<hr/>	
rack travel mm	: 10.90
Rated speed rpm	: 995
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1130
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1200

LOW IDLE

control lever position degree	: 66.0
tolerance degree	: ± 4.0

control lever
position degree : 12.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 5.60
Tolerance mm : +- 0.10

Rated speed rpm : 150
CRT mm min. : > 6.15

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 11.20
Tolerance mm : +- 0.05

Rated speed rpm : 950
rack travel mm : 11.20
Tolerance mm : +- 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.20
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.20
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 290
rack travel mm : 9.00
Tolerance mm : +- 0.15

Pressure hPa : 540
rack travel mm : 10.40
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 170
Check
speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 245.0
Tolerance
cm³/1000 strokes : +- 4.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 995
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 0.50

LOW IDLE

Rated speed rpm : 250
rack travel mm : 5.60
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000s. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.10.95
Test oil : ISO 4113

Combination No. : 0 402 946 019

Injection pump
Pump designation : PE6P120A720RS8041
EP type number : 0 412 926 027

Governor
Governor design. : RQV250...950PA1253
: -1
Governor no. : 0 421 814 167

Cust. part No. : 1383216

Customer-spec. information

Customer : SCANIA
Motor : DSC 11.74

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

J06

x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30

Check
tolerance °NW : ± 0.50

Start of delivery blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 227.0

Tolerance
cm³/1000 strokes : ± 1.0

<hr/>	
Check tolerance	
cm ³ /1000S.	: + 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 8.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 12.0
<hr/>	
Rated speed rpm	: 250
<hr/>	
Rack travel in mm	: 5.60
Tolerance mm	: + 0.30
Del. quantity	
cm ³ /1000 strokes	: 16.0
Tolerance	
cm ³ /1000 strokes	: + 3.0
Check tolerance	
cm ³ /1000S.	: + 6.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 4.0
Check tolerance	
cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 250
guide sleeve	
travel mm	: 1.31
Tolerance mm	: + 0.20
<hr/>	
Rated speed rpm	: 1005
guide sleeve	
travel mm	: 7.25
Tolerance mm	: + 0.15
<hr/>	
Rated speed rpm	: 673
guide sleeve	
travel mm	: 4.96
Tolerance mm	: + 0.25
<hr/>	
Rated speed rpm	: 420
guide sleeve	
travel mm	: 3.37
Tolerance mm	: + 0.25
<hr/>	
Rated speed rpm	: 1390
guide sleeve	
travel mm	: 11.50
Tolerance mm	: + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1250
<hr/>	
Rack travel in mm	: 9.35
Tolerance mm	: + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	: 1500
Del. quantity	
cm ³ /1000 strokes	: 227.0
Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

RATED SPEED

control lever	
position degree	: 58.0
tolerance degree	: + 4.0
<hr/>	
control lever	
position degree	: 111.0
tolerance degree	: + 4.0
<hr/>	
rack travel mm	: 10.90
Rated speed rpm	: 995
Tolerance 1/min	: + 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1190
Tolerance 1/min	: + 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1200

LOW IDLE

control lever	
position degree	: 66.0
tolerance degree	: + 4.0

control lever
position degree : 12.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 5.60
Tolerance mm : ± 0.10

Rated speed rpm : 150
CRT mm min. : > 6.15

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 10.35
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 10.35
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 10.35
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.20
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 260
rack travel mm : 8.80
Tolerance mm : ± 0.15

Pressure hPa : 430
rack travel mm : 9.80
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 170
Check
speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 216.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50

LOW IDLE

Rated speed rpm : 250
rack travel mm : 5.60
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 29.09.95
Test oil : ISO 4113
Combination No. : 0 403 476 048
Injection pump
Pump designation : PES6MW100/32ORS1135
EP type number : 0 413 406 127
Governor
Governor design. : RSV325...1250MW2A308
: -3
Governor no. : 0 420 085 057
Cust. part No. :

Customer-spec. information
Customer : VOLVO-PENTA
Motor : TD 61 AW
Power kW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 000
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0

J10

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 2.95
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance *NW : ± 0.75
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 800
Rack travel in mm : 11.05
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 86.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

Spreed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 325

Rack travel in mm : 8.75
Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : +- 2.0

Check tolerance
cm³/1000S. : +- 4.5

Spreed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 800
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 86.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 3.0

Spreed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

RATED SPEED

rack travel mm : 10.00
Rated speed rpm : 1295

Tolerance 1/min : +- 5

rack travel mm : 1.00
Tolerance mm : +- 0.70
Rated speed rpm : 1450

LOW IDLE

Testing:

Rated speed rpm : 325
rack travel mm : 8.75

Tolerance mm : +- 0.05

TORQUE CONTROL

Rated speed rpm : 800
rack travel mm : 11.05

Tolerance mm : +- 0.05

Rated speed rpm : 1000
rack travel mm : 11.05

Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -

Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 89.5

Tolerance
cm³/1000 strokes : +- 2.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 7.0

BREAKAWAY

Rack travel in mm : 10.00
Rated speed rpm : 1295

Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00

Tolerance mm : +- 1.00

Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 8.75
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.07.95
Test oil : ISO 4113

Combination No. : 0 401 408 050

Injection pump
Pump designation : PE8R120/500/6RS1509
EP type number : 0 401 408 050

Governor
Governor design. :
Governor no. :

Cust. part No. : 1 227 6686

Customer-spec. information
Customer : MWM
Motor : TBD 616-V16

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.95
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 0.50

Firing order : 1- 2- 5- 6- 3- 4
: - 7- 8

Phasing : 0-30-45-75-270-300
: -315-345
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.40
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 387.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 300

Rack travel in mm : 5.00
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 30.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 10.0

Check tolerance
cm³/1000S. : 14.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 387.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

TORQUE CONTROL

Rated speed rpm : 1150

rack travel mm : 14.40

Tolerance mm : ± 0.05

LOW IDLE

Rated speed rpm : 300

rack travel mm : 5.00

Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 30.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 10.0

Check tolerance
cm³/1000S. : 14.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.04.95
Test oil : ISO 4113
Combination No. : 0 402 670 810

Injection pump
Pump designation : PE12P120A520/5RS7375
EP type number : 0 412 620 844

Governor
Governor design. : RSUV300...900POA361
Governor no. : 0 421 829 110

Cust. part No. : 1 2277 426

Customer-spec. information
Customer : MWM
Motor : TBD 616-V12
Power KW : 648.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde assembly : 1 688 901 019

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.60
Tolerance mm : ± 0.05
test only : ± 0.10

Rack travel in mm : 13.00
Tolerance mm : ± 0.50

Firing order : 1- 2- 9-10- 5- 6
 : - 11- 12- 3- 4
 : - 7- 8

Phasing : 0-30-60-90-120-150
 : -180-210-240-270
 : -300-330
Tolerance : ± 0.30
Check tolerance °NW : ± 0.50

Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.30
Tolerance mm : ± 0.05

Del. quantity cm³/1000 strokes : 325.0

Tolerance cm³/1000 strokes : ± 1.0

Check tolerance
 cm³/1000S. : + 4.0

 Spreed
 Tolerance
 cm³/1000 strokes : 6.0

 Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 325
 Rack travel in mm : 4.30
 Tolerance mm : +- 0.30
 Del. quantity
 cm³/1000 strokes : 30.0
 Tolerance
 cm³/1000 strokes : +- 3.0
 Check tolerance
 cm³/1000S. : +- 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

governor spring
 pre-tension
 click setting x : 3.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 325.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

CONTROL LEVER

control lever
 position degree : 109.0
 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 1.00
 Tolerance mm : +- 0.70
 Rated speed rpm : 950

Rated speed rpm : 750
 rack travel mm : 12.30

Rated speed rpm : 784
 Tolerance 1/min : +- 4
 rack travel mm : 4.00

rack travel mm : 1.00
 Tolerance mm : +- 0.70

Rated speed rpm : 751
 rack travel mm : 12.30

Rated speed rpm : 785
 Tolerance 1/min : +- 4
 rack travel mm : 4.00

rack travel mm : 1.00
 Tolerance mm : +- 0.70

Rated speed rpm : 752
 rack travel mm : 12.30

Rated speed rpm : 786
 Tolerance 1/min : +- 4
 rack travel mm : 4.00

rack travel mm : 1.00
 Tolerance mm : +- 0.70

Rated speed rpm : 753
 rack travel mm : 12.30

Rated speed rpm : 787
 Tolerance 1/min : +- 4
 rack travel mm : 4.00

rack travel mm : 1.00
 Tolerance mm : +- 0.70

Rated speed rpm : 754
 rack travel mm : 12.30

Rated speed rpm : 788
 Tolerance 1/min : +- 4
 rack travel mm : 4.00

rack travel mm : 1.00
Tolerance mm : +- 0.70

Rated speed rpm : 755
rack travel mm : 12.30

Rated speed rpm : 789
Tolerance 1/min : +- 4
rack travel mm : 4.00

rack travel mm : 1.00
Tolerance mm : +- 0.70

LOW IDLE

control lever
position degree : 81.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 3.80

Testing:

Rated speed rpm : 325
rack travel mm : 4.30
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 360
Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.30
Tolerance mm : +- 0.05

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 350.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 4.30
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 27.06.95
Test oil : ISO 4113

Combination No. : 0 402 678 828

Injection pump
Pump designation : PE8P120A520/5RS7381
EP type number : 0 412 628 907

Governor
Governor design. : RSUV300...900POA363
Governor no. : 0 421 829 111

Cust. part No. : 1 2277 434

Customer-spec. information

Customer : MWM
Motor : TBD 616
Power KW : 432.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Test nozzle holde
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 4.60
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 13.00
Tolerance mm : +- 0.50

Firing order : 1- 8- 5- 4- 7
 : - 2- 3- 6

Phasing : 0-30-90-120-180
 : -210-270-300

Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.30
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 325.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

<hr/>	
Speed	
Tolerance	
cm ³ /1000 strokes :	6.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
<hr/>	
Rated speed rpm :	325
<hr/>	
Rack travel in mm :	4.30
Tolerance mm :	+ 0.30
Del. quantity	
cm ³ /1000 strokes :	30.0
Tolerance	
cm ³ /1000 strokes :	+ 3.0
Check tolerance	
cm ³ /1000S.	: + 6.0
Speed	
Tolerance	
cm ³ /1000 strokes :	8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

governor spring	
pre-tension	
click setting x :	3.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	700
Aneroid pressure	
hPa :	-
Del. quantity	
cm ³ /1000 strokes :	325.0
Tolerance	
cm ³ /1000 strokes :	+ 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Speed	
Tolerance	
cm ³ /1000 strokes :	6.0
Check tolerance	
cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever	
position degree :	109.0

tolerance degree :	+ 4.0
--------------------	-------

RATED SPEED

rack travel mm :	1.00
Tolerance mm :	+ 0.70
Rated speed rpm :	950

Rated speed rpm :	750
rack travel mm :	12.30

Rated speed rpm :	784
Tolerance 1/min :	+ 4
rack travel mm :	4.00

rack travel mm :	1.00
Tolerance mm :	+ 0.70

Rated speed rpm :	751
rack travel mm :	12.30

Rated speed rpm :	785
Tolerance 1/min :	+ 4
rack travel mm :	4.00

rack travel mm :	1.00
Tolerance mm :	+ 0.70

Rated speed rpm :	752
rack travel mm :	12.30

Rated speed rpm :	786
Tolerance 1/min :	+ 4
rack travel mm :	4.00

rack travel mm :	1.00
Tolerance mm :	+ 0.70

Rated speed rpm :	753
rack travel mm :	12.30

Rated speed rpm :	787
Tolerance 1/min :	+ 4
rack travel mm :	4.00

rack travel mm :	1.00
Tolerance mm :	+ 0.70

Rated speed rpm :	754
rack travel mm :	12.30

Rated speed rpm :	788
Tolerance 1/min :	+ 4
rack travel mm :	4.00

rack travel mm :	1.00
Tolerance mm :	+ 0.70

Rated speed rpm : 755
rack travel mm : 12.30

Rated speed rpm : 789
Tolerance 1/min : +- 4
rack travel mm : 4.00

rack travel mm : 1.00
Tolerance mm : +- 0.70

LOW IDLE

control lever
position degree : 81.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 3.80

Testing:

Rated speed rpm : 325
rack travel mm : 4.30
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 360
Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.30
Tolerance mm : +- 0.05

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 350.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 24.0

LOW IDLE

J20

Rated speed rpm : 325
rack travel mm : 4.30
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.08.95
Test oil : ISO 4113

Combination No. : 0 402 678 830

Injection pump
Pump designation : PE8P120A520/5RS7386
EP type number : 0 412 628 910

Governor
Governor design. : RSUV325...1150POA358
: -1
Governor no. : 0 421 829 106

Cust. part No. : 12277649KY0120-17

Customer-spec. information
Customer : MWM
Motor : TBD 616 V16
Power KW : 864.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.65
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.00
Tolerance mm : ± 0.10

Firing order : 1- 2- 7- 8- 3- 4-
: 5- 6

Phasing : 0-30-45-75-90-120
: -315-345
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.60
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 262.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.40
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 38.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 262.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 123.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.60

Rated speed rpm : 1193
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1270
Tolerance 1/min : ± 15

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1380

rack travel mm : 4.00
Rated speed rpm : 1285

LOW IDLE

control lever
position degree : 84.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 300
rack travel mm : 5.90

Testing:

Rated speed rpm : 300
rack travel mm : 6.40
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 460
Tolerance 1/min : ± 30

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 12.60
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 12.60
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1250
rack travel mm : 12.60
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 8.50
Tolerance mm : +- 0.20

Rated speed rpm : 600

Pressure hPa : 670
rack travel mm : 11.40
Tolerance mm : +- 0.20

Pressure hPa : 450
rack travel mm : 9.60
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 261.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 131.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.60
Rated speed rpm : 1193
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : > 19.50

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.40
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 38.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.09.95
Test oil : ISO 4113

Combination No. : 0 401 416 050

Injection pump
Pump designation : PE6R130/700RS1511
EP type number : 0 411 436 003

Governor
Governor design. :
Governor no. :

Cust. part No. : 3825418 P03

Customer-spec. information
Customer : PENTA
Motor : TAD 1631 G
Power KW : 558.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : +- 0.1

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 4.55
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 13.00
Tolerance mm : +- 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check
tolerance *NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.60
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 473.0

Tolerance
cm³/1000 strokes : +- 2.0

Check tolerance
cm³/1000S. : +- 5.0

Speed
Tolerance
cm³/1000 strokes : 11.0

Check tolerance
cm³/1000S. : 15.0

Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 7.0

Speed
Tolerance
cm³/1000 strokes : 11.0
Check tolerance
cm³/1000S. : 15.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 473.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 11.0
Check tolerance
cm³/1000S. : 15.0

LOW IDLE

Testing:

Rated speed rpm : 250
rack travel mm : 6.25
Tolerance mm : ± 0.20

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.60
Tolerance mm : ± 0.95

LOW IDLE

Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 7.0
Speed
Tolerance
cm³/1000 strokes : 11.0
Check tolerance
cm³/1000S. : 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.02.91
 Test oil : ISO 4113
 Combination No. : 0 400 836 043
 Injection pump
 Pump designation : PES6A100D320/3RS2691
 : -2
 EP type number : 9 410 230 028
 Governor
 Governor design. : RQV350...1200AB1245R
 Governor no. : 0 420 213 118

Cust. part No. :

Customer-spec. information
 Customer : CDC
 Motor : 6CT830
 Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 2
 Test oil inlet
 temp. °C : 40
 Tolerance °C : ± 2.0
 Overflow valve : 1 417 413 047
 Inlet press. bar : 1.5
 Test nozzle holde
 assembly : 1 688 901 017
 Opening pressure
 bar : 208.5
 Tolerance bar : ± 1.5
 Test lines : 1 680 750 014
 Outside diameter : 6.0

x inside diameter : 2.0
 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
 Set equal delivery quant.
 per values _____

BEGINNING OF DELIVERY

Test pressure bar : 28.0
 Tolerance bar : ± 1.0
 Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
 Tolerance : ± 0.50
 Check
 tolerance °NW : ± 0.75

BASIC SETTING

Del. quantity
 cm³/1000 strokes : 114.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.5
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 6.5
 Rated speed rpm : 350
 Rack travel in mm : 4.80
 Tolerance mm : ± 0.20
 Del. quantity
 cm³/1000 strokes : 18.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spreed

Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 0.10
Tolerance mm : ± 0.10

Rated speed rpm : 1200
guide sleeve
travel mm : 6.90

Rated speed rpm : 350
guide sleeve
travel mm : 1.25
Tolerance mm : ± 0.25

Rated speed rpm : 450
guide sleeve
travel mm : 2.15
Tolerance mm : ± 0.25

Rated speed rpm : 1350
guide sleeve
travel mm : 8.45
Tolerance mm : ± 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 114.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.5
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

CONTROL LEVER

control lever
position degree : 96.0

J27

tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.80
Rated speed rpm : 1245
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1330
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 62.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 4.80
Tolerance mm : ± 0.10

rack travel mm : 2.00

START CUT-OUT

Rated speed rpm : < 290
Check
speed 1/min : < 300

BREAKAWAY

Rack travel in mm : 9.80
Rated speed rpm : 1245
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : ± 1.00
Del. quantity
cm³/1000 strokes : 160.0

Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 13.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 4.80
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.10.95
Test oil : ISO 4113
Combination No. : 0 402 670 811
Injection pump
Pump designation : PE12P120A520/5RS7385
EP type number : 0 412 620 846
Governor
Governor design. : RSUV300...1150POA364
Governor no. : 0 421 829 112
Cust. part No. : 12277646KYD120-17

Customer-spec. information

Customer : MWM
Motor : TBD 616-V12
Power KW : 648.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holde
assembly : 1 688 901 019
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 075
Outside diameter : 8.0

K01

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 4.65
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 13.00
Tolerance mm : ± 0.50
Firing order : 1- 2- 9-10- 5- 6
 : - 11- 12- 3- 4
 : - 7- 8
Phasing : 0-30-60-90-120-150
 : -180-210-240-270
 : -300-330
Tolerance : ± 0.30
Check
tolerance *NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150
Rack travel in mm : 12.60
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 262.0
Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.40
Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 38.0
Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : 1250
Del. quantity
cm³/1000 strokes : 262.0

Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

K02

control lever
position degree : 113.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.60
Rated speed rpm : 1193
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1270
Tolerance 1/min : +- 15

rack travel mm : 1.00
Tolerance mm : +- 0.70
Rated speed rpm : 1380

rack travel mm : 4.00
Rated speed rpm : 1280

LOW IDLE

control lever
position degree : 74.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 300
rack travel mm : 5.90

Testing:

Rated speed rpm : 300
rack travel mm : 6.40
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 450
Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 12.60
Tolerance mm : +- 0.05

Rated speed rpm : 800
rack travel mm : 12.60
Tolerance mm : +- 0.10

Rated speed rpm : 500
rack travel mm : 12.60
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1250
rack travel mm : 12.60
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 8.60
Tolerance mm : ± 0.10

Rated speed rpm : 600

Pressure hPa : 670
rack travel mm : 11.40
Tolerance mm : ± 0.10

Pressure hPa : 450
rack travel mm : 9.60
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1250
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 261.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 131.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed

Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.60
Rated speed rpm : 1193
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 16.00
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 347.0
Tolerance
cm³/1000 strokes : ± 14.0
Check tolerance
cm³/1000S. : ± 20.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.40
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 38.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 29.09.95
Test oil : ISO 4113
Combination No. : 0 402 678 829
Injection pump
Pump designation : FE8P120A520/5RS7384
EP type number : 0 412 628 909
Governor
Governor design. : RSUV300...1150POA364
Governor no. : 0 421 829 112
Cust. part No. : 12277644KY0120-17

Customer-spec. information
Customer : MWM
Motor : TBD 616 V8
Power KW : 432.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holder assembly : 1 688 901 019
Opening pressure bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 075
Outside diameter : 8.0

K04

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 4.65
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 13.00
Tolerance mm : ± 0.50
Firing order : 1- 8- 5- 4- 7
 : - 2- 3- 6
Phasing : 0-30-90-120-180
 : -210-270-300
Tolerance : ± 0.30
Check tolerance °NW : ± 0.50
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150
Rack travel in mm : 12.60
Tolerance mm : ± 0.05
Del. quantity cm³/1000 strokes : 262.0
Tolerance cm³/1000 strokes : ± 1.0
Check tolerance cm³/1000s. : ± 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.40
 Tolerance mm : +- 0.20
 Del. quantity
 cm³/1000 strokes : 38.0
 Tolerance
 cm³/1000 strokes : +- 3.0
 Check tolerance
 cm³/1000S. : +- 6.0

Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : +- 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 262.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

CONTROL LEVER

control lever
 position degree : 115.0
 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.60
 Rated speed rpm : 1193
 Tolerance 1/min : +- 5

rack travel mm : 4.00
 Rated speed rpm : 1270
 Tolerance 1/min : +- 15

rack travel mm : 1.00
 Tolerance mm : +- 0.70
 Rated speed rpm : 1380

rack travel mm : 4.00
 Rated speed rpm : 1285

LOW IDLE

control lever
 position degree : 78.0
 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 300
 rack travel mm : 5.90

Testing:

Rated speed rpm : 300
 rack travel mm : 6.40
 Tolerance mm : +- 0.10

rack travel mm : 2.00
 Rated speed rpm : 450
 Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 1150
 rack travel mm : 12.60
 Tolerance mm : +- 0.05

Rated speed rpm : 800
 rack travel mm : 12.60
 Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1250
rack travel mm : 12.60
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 8.60
Tolerance mm : \pm 0.10

Rated speed rpm : 600

Pressure hPa : 670
rack travel mm : 11.40
Tolerance mm : \pm 0.20

Pressure hPa : 450
rack travel mm : 9.60
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 261.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 131.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed

Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.60
Rated speed rpm : 1193
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 16.20
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 347.0
Tolerance
cm³/1000 strokes : \pm 14.0
Check tolerance
cm³/1000S. : \pm 20.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.40
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 38.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 29.09.95
Test oil : ISO 4113

Combination No. : 0 402 646 652

Injection pump
Pump designation : PE6P130A720RS7137
: -10
EP type number : 0 412 636 832

Governor
Governor design. : RQ750PA865-3
Governor no. : 0 421 801 751

Cust. part No. : 866371 P03 v. 6/94

Customer-spec. information

Customer : PENTA
Motor : TWD 1630 G
Power KW : 392.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Vibration damper
(RoBo diaphragm) : 3.1

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 010

Inlet press. bar : 1.5

Test nozzle holder assembly : 1 688 901 019

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.65
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 14.25
Tolerance mm : ± 0.05

Del. quantity cm³/1000 strokes : 450.0

Tolerance
cm³/1000 strokes : +- 1.5

Check tolerance
cm³/1000S. : +- 5.0

Spreed
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 450.0
Tolerance
cm³/1000 strokes : +- 1.5
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

CONTROL LEVER

control lever
position degree : 29.0
tolerance degree : +- 4.0

control lever
position degree : 90.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 13.25
Rated speed rpm : 751
Tolerance 1/min : +- 3

rack travel mm : 4.00
Rated speed rpm : 789
Tolerance 1/min : +- 7

rack travel mm : 0.50
Tolerance mm : +- 0.50

Rated speed rpm : 850

Rated speed rpm : 748
rack travel mm : 13.25

Rated speed rpm : 787
Tolerance 1/min : +- 5
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 850

Rated speed rpm : 749
rack travel mm : 13.25

Rated speed rpm : 788
Tolerance 1/min : +- 5
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 850

Rated speed rpm : 750
rack travel mm : 13.25

Rated speed rpm : 789
Tolerance 1/min : +- 5
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 850

Rated speed rpm : 751
rack travel mm : 13.25

Rated speed rpm : 790
Tolerance 1/min : +- 5
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 850

Rated speed rpm : 752
rack travel mm : 13.25

Rated speed rpm : 791
Tolerance 1/min : +- 5
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 850

Rated speed rpm : 753

rack travel mm : 13.25

Rated speed rpm : 792
Tolerance 1/min : +- 5
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 850

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 14.25
Tolerance mm : +- 0.05

BREAKAWAY

Rack travel in mm : 13.25
Rated speed rpm : 751
Tolerance 1/min : +- 3

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.95
Test oil : ISO 4113
Combination No. : 0 401 848 829
Injection pump
Pump designation : FE8P110A320LS3865
EP type number : 0 411 818 728

Governor
Governor design. : RQ250/1150PA1250
Governor no. : 0 421 801 796

Cust. part No. :

Customer-spec. information
Customer : DAEWOO
Motor : V2-SNA

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 4.00
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1
Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50
Start of delivery mark
Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1150
Rack travel in mm : 11.80
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 126.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes :	6.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 10.0
<hr/>	
Rated speed rpm :	250
<hr/>	
Rack travel in mm :	8.10
Tolerance mm :	+ 0.30
Del. quantity	
cm ³ /1000 strokes :	25.0
Tolerance	
cm ³ /1000 strokes :	+ 3.0
Check tolerance	
cm ³ /1000S.	: + 6.0
Spread	
Tolerance	
cm ³ /1000 strokes :	6.0
Check tolerance	
cm ³ /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	250
guide sleeve	
travel mm :	1.59
Tolerance mm :	+ 0.20
<hr/>	
Rated speed rpm :	1205
guide sleeve	
travel mm :	7.34
Tolerance mm :	+ 0.15
<hr/>	
Rated speed rpm :	1150
guide sleeve	
travel mm :	7.00
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	414
guide sleeve	
travel mm :	5.47
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	510
guide sleeve	
travel mm :	7.00
Tolerance mm :	+ 0.10
<hr/>	
Rated speed rpm :	1340
guide sleeve	
travel mm :	11.50
Tolerance mm :	+ 0.50

K11

GUIDE SLEEVE POSITION

Rated speed rpm :	700
<hr/>	
Rack travel in mm :	15.50
Tolerance mm :	+ 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1150
Aneroid pressure	
hPa :	-
Del. quantity	
cm ³ /1000 strokes :	126.0
Tolerance	
cm ³ /1000 strokes :	+ 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Spread	
Tolerance	
cm ³ /1000 strokes :	6.0
Check tolerance	
cm ³ /1000S.	: 10.0

CONTROL LEVER

control lever	
position degree :	36.0
tolerance degree :	+ 4.0
<hr/>	
control lever	
position degree :	98.0
tolerance degree :	+ 4.0

RATED SPEED

rack travel mm :	10.80
Rated speed rpm :	1203
Tolerance 1/min :	+ 5
<hr/>	
rack travel mm :	4.00
Rated speed rpm :	1260
Tolerance 1/min :	+ 15
<hr/>	
rack travel mm :	0.50
Tolerance mm :	+ 0.50
Rated speed rpm :	1350

LOW IDLE

control lever	
position degree :	77.0

tolerance degree : +- 4.0
control lever
position degree : 14.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 8.10
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : +- 20

Rated speed rpm : 150

CRT mm min. : > 9.90

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 11.80
Tolerance mm : +- 0.05

Rated speed rpm : 650
rack travel mm : 11.80
Tolerance mm : +- 0.10

START CUT-OUT

Rated speed rpm : < 170
Check
speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 127.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

BREAKAWAY

Rack travel in mm : 10.80
Rated speed rpm : 1203
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 8.10
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.10.95
Test oil : ISO 4113

Combination No. : 0 401 876 345

Injection pump
Pump designation : PE6P120A32ORS3301
EP type number : 0 411 826 805

Governor
Governor design. : RSV250...1100POA374
: -12
Governor no. : 0 421 833 375

Cust. part No. : 865409 P04 v. 6/95

Customer-spec. information
Customer : PENTA
Motor : TAMD 102 D

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration damper
(RoBo diaphragm) : 4.1

Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Test nozzle holder assembly : 1 688 901 019

Opening pressure bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 3.45
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check tolerance *NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.30
Tolerance mm : +- 0.05

Del. quantity cm³/1000 strokes : 280.0

<hr/>	
Tolerance	
cm ³ /1000 strokes	: +- 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: +- 4.0
<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes	: 7.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 11.0
<hr/>	
Del. quantity	
cm ³ /1000 strokes	: 24.0
Tolerance	
cm ³ /1000 strokes	: +- 2.5
Check tolerance	
cm ³ /1000S.	: +- 5.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 3.0
Check tolerance	
cm ³ /1000S.	: 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	: 800
Rack travel in mm	: 0.85
Tolerance mm	: +- 0.55
governor spring	
pre-tension	
click setting x	: 2.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: 1500
Del. quantity	
cm ³ /1000 strokes	: 280.0
Tolerance	
cm ³ /1000 strokes	: +- 1.0
Check tolerance	
cm ³ /1000S.	: +- 4.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 7.0
Check tolerance	
cm ³ /1000S.	: 11.0

CONTROL LEVER

control lever	
position degree	: 44.0
tolerance degree	: +- 4.0

control lever	
position degree	: 94.0
tolerance degree	: +- 4.0

RATED SPEED

rack travel mm	: 12.30
Rated speed rpm	: 1145
Tolerance 1/min	: +- 5

rack travel mm	: 4.00
Rated speed rpm	: 1230
Tolerance 1/min	: +- 15

rack travel mm	: 0.85
Tolerance mm	: +- 0.55
Rated speed rpm	: 1350

rack travel mm	: 4.00
Rated speed rpm	: 1240

LOW IDLE

control lever	
position degree	: 69.0
tolerance degree	: +- 4.0

control lever	
position degree	: 19.0
tolerance degree	: +- 4.0

Setting point w/out bumper spring

Rated speed rpm	: 250
rack travel mm	: 5.70

Testing:

Rated speed rpm	: 250
rack travel mm	: 6.20
Tolerance mm	: +- 0.10

rack travel mm	: 2.00
Rated speed rpm	: 370
Tolerance 1/min	: +- 30

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.30
Tolerance mm : +- 0.05

Rated speed rpm : 700
rack travel mm : 13.30
Tolerance mm : +- 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.30
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.10
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 1100
rack travel mm : 4.70
Tolerance mm : +- 0.15

Pressure hPa : 150
rack travel mm : 0.25
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 303.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 700

K15

Del. quantity
cm³/1000 strokes : 148.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 1145
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 15.00
Tolerance mm : +- 0.50

LOW IDLE

Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : +- 2.5
Check tolerance
cm³/1000S. : +- 5.0
Speed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.95
Test oil : ISO 4113

Combination No. : 0 401 876 346

Injection pump
Pump designation : PE6P110A320RS497
EP type number : 0 411 816 165

Governor
Governor design. : RSV250...1200P1A374
 : -14
Governor no. : 0 421 833 464

Cust. part No. : 866537-P03 v. 12/94

Customer-spec. information
Customer : PENTA
Motor : TID 72A

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper
(RoBo diaphragm) : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.05
Tolerance mm : ± 0.05
test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check tolerance °NW : ± 0.75

Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 139.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

governor spring
pre-tension
click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 139.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

RATED SPEED

rack travel mm : 11.85
Rated speed rpm : 1215
Tolerance 1/min : ± 5

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1400

LOW IDLE

Setting point w/out bumper spring

K17

Rated speed rpm : 250
rack travel mm : 5.20

Testing:

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.85
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.40
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 910
rack travel mm : 3.10
Tolerance mm : ± 0.10

Pressure hPa : 310
rack travel mm : 0.25
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 77.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.85
Rated speed rpm : 1215

Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 0.50
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.10.95
Test oil : ISO 4113
Combination No. : 0 401 876 762
Injection pump
Pump designation : PE6P120A320RS3206
EP type number : 0 411 826 773
Governor
Governor design. : RSV250...900P4A374
: -7
Governor no. : 0 421 833 284
Cust. part No. : 863094 P04 v. 6/95

Customer-spec. information
Customer : VOLVO-PENTA
Motor : TMD 122 A (HD)
Power KW : 236.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Vibration damper (RoBo diaphragm) : 4.1
Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 077
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holder assembly : 1 688 901 019
Opening pressure bar : 208.5
Tolerance bar : ± 1.5

K19

Test lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 3.55
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 8.50
Tolerance mm : ± 0.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check tolerance °NW : ± 0.75
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 9.95
Tolerance mm : ± 0.05
Del. quantity cm³/1000 strokes : 213.5

<hr/>	
Tolerance	
cm ³ /1000 strokes	: + 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: + 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: + 0.20
<hr/>	
governor spring	
pre-tension	
click setting x	: 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	: 1000
Del. quantity	
cm ³ /1000 strokes	: 213.5
Tolerance	
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever	
position degree	: 57.0
tolerance degree	: + 4.0
<hr/>	
control lever	
position degree	: 107.0
tolerance degree	: + 4.0

K20

RATED SPEED

rack travel mm	: 8.95
Rated speed rpm	: 930
Tolerance 1/min	: + 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 980
Tolerance 1/min	: +- 15
<hr/>	
rack travel mm	: 0.85
Tolerance mm	: +- 0.55
Rated speed rpm	: 1130

LOW IDLE

control lever	
position degree	: 79.0
tolerance degree	: + 4.0
<hr/>	
control lever	
position degree	: 29.0
tolerance degree	: + 4.0

Setting point w/out bumper spring

Rated speed rpm	: 250
rack travel mm	: 4.60

Testing:

Rated speed rpm	: 250
rack travel mm	: 5.10
Tolerance mm	: + 0.10
<hr/>	
rack travel mm	: 2.00
Rated speed rpm	: 410
Tolerance 1/min	: + 30

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	: 700
Pressure hPa	: 1000
rack travel mm	: 9.95
Tolerance mm	: + 0.05

MEASUREMENT

Pressure hPa	: -
Rated speed rpm	: 700

rack travel mm : 8.70
Tolerance mm : ± 0.10

Rated speed rpm : 700

Pressure hPa : 570
rack travel mm : 0.80
Tolerance mm : ± 0.15

Pressure hPa : 460
rack travel mm : 0.25
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 178.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 8.95
Rated speed rpm : 930
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 8.50
Tolerance mm : ± 0.50

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.10.95
Test oil : ISO 4113

Combination No. : 0 401 876 808

Injection pump
Pump designation : PE6P120A32ORS3355
EP type number : 0 411 826 814

Governor
Governor design. : RSV300...1100P1A604
Governor no. : 0 421 833 485

Cust. part No. : 3825516 P02 v. 5/95

Customer-spec. information
Customer : PENTA
Motor : TD1030ME
Power KW : 190.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity min. l/h : 85
Tolerance l/h : ± 10.0

Test nozzle holder assembly : 1 688 901 101

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 9.90
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.50
Tolerance mm : ± 0.05

Del. quantity cm³/1000 strokes : 156.0

Tolerance
 cm³/1000 strokes : +- 1.0

Check tolerance
 cm³/1000S. : +- 4.0

Spread
 Tolerance
 cm³/1000 strokes : 7.0

Check tolerance
 cm³/1000S. : 11.0

Rated speed rpm : 300

Rack travel in mm : 4.70
 Tolerance mm : +- 0.20

Del. quantity
 cm³/1000 strokes : 23.0
 Tolerance
 cm³/1000 strokes : +- 2.5
 Check tolerance
 cm³/1000S. : +- 5.0

Spread
 Tolerance
 cm³/1000 strokes : 3.0
 Check tolerance
 cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.85
 Tolerance mm : +- 0.55

governor spring
 pre-tension
 click setting x : 4.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
 Aneroid pressure
 hPa : 1500
 Del. quantity
 cm³/1000 strokes : 156.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0
 Spread

Tolerance
 cm³/1000 strokes : 7.0
 Check tolerance
 cm³/1000S. : 11.0

CONTROL LEVER

control lever
 position degree : 62.0
 tolerance degree : +- 4.0

control lever
 position degree : 112.0
 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.50
 Rated speed rpm : 1135
 Tolerance 1/min : +- 5

rack travel mm : 4.00
 Rated speed rpm : 1190
 Tolerance 1/min : +- 15

rack travel mm : 0.85
 Tolerance mm : +- 0.55
 Rated speed rpm : 1300

rack travel mm : 4.00
 Rated speed rpm : 1195

LOW IDLE

control lever
 position degree : 76.0
 tolerance degree : +- 4.0

control lever
 position degree : 26.0
 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 300
 rack travel mm : 4.20

Testing:

Rated speed rpm : 300
 rack travel mm : 4.70
 Tolerance mm : +- 0.10

rack travel mm : 2.00
 Rated speed rpm : 380

Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.50
Tolerance mm : +- 0.05

Rated speed rpm : 700
rack travel mm : 12.50
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.50
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.55
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 555
rack travel mm : 2.30
Tolerance mm : +- 0.15

Pressure hPa : 140
rack travel mm : 0.25
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 179.5
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 127.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 11.50
Rated speed rpm : 1135
Tolerance 1/min : +- 5

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.70
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : +- 2.5
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.10.95
Test oil : ISO 4113

Combination No. : 0 401 876 810

Injection pump
Pump designation : PE6P120A320RS3359
EP type number : 0 411 826 815

Governor
Governor design. : RSV325...1200P1A615
Governor no. : 0 421 833 503

Cust. part No. : 3825515 P01 v. 5/95

Customer-spec. information
Customer : PENTA
Motor : TD 730ME
Power KW : 150.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.35
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 9.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.10
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 130.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

Rated speed rpm : 325

Rack travel in mm : 4.40
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 30.0

Tolerance
cm³/1000 strokes : ± 2.5

Check tolerance
cm³/1000S. : ± 5.0

Spread
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.85
Tolerance mm : ± 0.55

governor spring
pre-tension
click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200

Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 130.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

CONTROL LEVER

control lever
position degree : 68.0
tolerance degree : ± 4.0

control lever
position degree : 118.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.10
Rated speed rpm : 1235
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1280
Tolerance 1/min : ± 15

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 79.0
tolerance degree : ± 4.0

control lever
position degree : 29.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 3.90

Testing:

Rated speed rpm : 325
rack travel mm : 4.40
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : ± 30

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 11.10

Tolerance mm : +- 0.05
Rated speed rpm : 700
rack travel mm : 11.10
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.00
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.80
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 770
rack travel mm : 1.85
Tolerance mm : +- 0.15

Pressure hPa : 390
rack travel mm : 0.25
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 89.0

Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 10.10
Rated speed rpm : 1235
Tolerance 1/min : +- 5

LOW IDLE

Rated speed rpm : 325
rack travel mm : 4.40
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : +- 2.5
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.10.95
Test oil : ISO 4113

Combination No. : 0 402 046 801

Injection pump
Pump designation : FES6P110A720RS3104
EP type number : 0 412 016 712

Governor
Governor design. : RQV300...1150PA850
: -2
Governor no. : 0 421 813 718

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : BF6L513RC
Power kW : 231.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 173.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 300

Rack travel in mm : 7.80
Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : +- 2.5

Check tolerance
cm³/1000S. : +- 5.0

Spread
Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.30
Tolerance mm : +- 0.10

Rated speed rpm : 1195
guide sleeve
travel mm : 8.50
Tolerance mm : +- 0.10

Rated speed rpm : 350
guide sleeve
travel mm : 2.20
Tolerance mm : +- 0.30

Rated speed rpm : 650
guide sleeve
travel mm : 4.50
Tolerance mm : +- 0.30

Rated speed rpm : 1320
guide sleeve
travel mm : 9.90
Tolerance mm : +- 0.20

GUIDE SLEEVE POSITION

L01

Rated speed rpm : 1190

Rack travel in mm : 16.50
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150

Aneroid pressure
hPa : 900

Del. quantity
cm³/1000 strokes : 173.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 56.0
tolerance degree : +- 4.0

control lever
position degree : 122.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 13.40
Rated speed rpm : 1195
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1320
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 86.0
tolerance degree : +- 4.0

control lever
position degree : 20.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 7.80
Tolerance mm : +- 0.10

Rated speed rpm : 100
CRT mm min. : > 9.30

Rated speed rpm : 395

TORQUE CONTROL

Dimension a mm : 0.20
Rated speed rpm : 1150
rack travel mm : 14.45
Tolerance mm : +- 0.05

Rated speed rpm : 700
rack travel mm : 14.70
Tolerance mm : +- 0.10

Rated speed rpm : 950
rack travel mm : 14.55
Tolerance mm : +- 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 450
Pressure hPa : 900
rack travel mm : 14.70
Tolerance mm : +- 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 450
rack travel mm : 12.40
Tolerance mm : +- 0.10

Rated speed rpm : 450

Pressure hPa : 390
rack travel mm : 13.00
Tolerance mm : +- 0.10

Pressure hPa : 530
rack travel mm : 14.05

L02

Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 178.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 450
Del. quantity
cm³/1000 strokes : 124.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1195
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 185.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 7.80
Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000s. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000s. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.09.95
Test oil : ISO 4113

Combination No. : 0 402 640 817

Injection pump
Pump designation : PE12P120A520LS7826
EP type number : 0 412 620 817

Governor
Governor design. : RQV350...1150PA870
: -4
Governor no. : 0 421 813 717

Cust. part No. :

Customer-spec. information

Customer : MB-NFZ
Motor : OM 444 LA
Power kW : 736.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 160
Tolerance l/h : +- 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 4.45
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 20.00
Tolerance mm : +- 1.00

Firing order : 12- 1- 5- 9- 8
: - 3- 4- 11- 10
: - 2- 6- 7

Phasing : 0-45-60-105-120
: -165-180-225-240
: -285-300-345
Tolerance : +- 0.30

Check
tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 15.15
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 301.0

<hr/>	
Tolerance	
cm ³ /1000 strokes	: +- 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: +- 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 6.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 10.0
<hr/>	
Rated speed rpm	: 350
<hr/>	
Rack travel in mm	: 5.60
Tolerance mm	: +- 0.30
Del. quantity	
cm ³ /1000 strokes	: 15.0
Tolerance	
cm ³ /1000 strokes	: +- 3.0
Check tolerance	
cm ³ /1000S.	: +- 6.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 350
guide sleeve	
travel mm	: 1.55
Tolerance mm	: +- 0.20
<hr/>	
Rated speed rpm	: 1206
guide sleeve	
travel mm	: 8.15
Tolerance mm	: +- 0.15
<hr/>	
Rated speed rpm	: 600
guide sleeve	
travel mm	: 3.55
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 960
guide sleeve	
travel mm	: 5.55
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 1291
guide sleeve	
travel mm	: 10.05

Tolerance mm : +- 0.25

GUIDE SLEEVE POSITION

Rated speed rpm	: 1275
<hr/>	
Rack travel in mm	: 16.50
Tolerance mm	: +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1150
Aneroid pressure	
hPa	: 1800
Del. quantity	
cm ³ /1000 strokes	: 301.0
Tolerance	
cm ³ /1000 strokes	: +- 1.0
Check tolerance	
cm ³ /1000S.	: +- 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 10.0

CONTROL LEVER

control lever	
position degree	: 117.0
tolerance degree	: +- 4.0

RATED SPEED

rack travel mm	: 14.20
Rated speed rpm	: 1195
Tolerance 1/min	: +- 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1285
Tolerance 1/min	: +- 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 1350
<hr/>	
Rated speed rpm	: 753
Tolerance 1/min	: +- 3
rack travel mm	: 10.80
<hr/>	
Rated speed rpm	: 785
Tolerance 1/min	: +- 5
rack travel mm	: 4.00

rack travel mm : 0.50
 Tolerance mm : ± 0.50
 Rated speed rpm : 900

rack travel mm : 10.80
 rack travel mm : 4.00
 rack travel mm : 0.50
 Tolerance mm : ± 0.50
 rack travel mm : 10.80
 rack travel mm : 4.00
 rack travel mm : 0.50
 Tolerance mm : ± 0.50
 rack travel mm : 10.80
 rack travel mm : 4.00
 rack travel mm : 0.50
 Tolerance mm : ± 0.50
 rack travel mm : 10.80
 rack travel mm : 4.00
 rack travel mm : 0.50
 Tolerance mm : ± 0.50
 rack travel mm : 10.80
 rack travel mm : 4.00
 rack travel mm : 0.50
 Tolerance mm : ± 0.50

LOW IDLE

control lever
 position degree : 66.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350
 rack travel mm : 5.60
 Tolerance mm : ± 0.10

Rated speed rpm : 250

CRT mm min. : > 7.30

Rated speed rpm : 475

TORQUE CONTROL

Rated speed rpm : 1150
 rack travel mm : 15.15
 Tolerance mm : ± 0.05

Rated speed rpm : 750
 rack travel mm : 15.25
 Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 500

Pressure hPa : 400
 rack travel mm : 1.75
 Tolerance mm : ± 0.05

Pressure hPa : 1050
 rack travel mm : 5.90
 Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 310
 Check
 speed 1/min : < 330

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1800
 Rated speed rpm : 750
 Del. quantity
 cm³/1000 strokes : 306.0
 Tolerance
 cm³/1000 strokes : ± 5.0
 Check tolerance
 cm³/1000S. : ± 8.0
 Spreed
 Tolerance
 cm³/1000 strokes : 10.0
 Check tolerance
 cm³/1000S. : 15.0

Aneroid pressure
 hPa : 1800
 Rated speed rpm : 1150

Del. quantity
cm³/1000 strokes : 234.5
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 15.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 124.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 15.0

BREAKAWAY

Rack travel in mm : 14.20
Rated speed rpm : 1195
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 331.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 5.60
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.10.95
Test oil : ISO 4113
Combination No. : 0 402 640 842
Injection pump
Pump designation : FE12P120A520/5RS7304
EP type number : 0 412 620 838
Governor
Governor design. : RQV300...550/1050PA1
: 093
Governor no. : 0 421 814 067
Cust. part No. :

Customer-spec. information
Customer : MWM
Motor : TBD234-FAUN

TEST BENCH REQUIREMENTS

Inlet line : 3.1,3.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 4i7 413 025
Overflow quantity
min. L/h : 170
Tolerance L/h : ± 10.0
Test nozzle holde
assembly : 1 688 901 019
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 075
Outside diameter : 8.0

L08

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 5.20
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 19.50
Tolerance mm : ± 1.50
Firing order : 1- 2- 9-10- 5- 6
: - 11- 12- 3- 4
: - 7- 8
Phasing : 0-30-60-90-120-150
: -180-210-240-270
: -300-330
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050
Rack travel in mm : 13.60
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : ± 1.0

<hr/>	
Check tolerance	
cm ³ /1000S.	: +- 4.0
<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes	: 6.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
<hr/>	
Rated speed rpm	: 300
<hr/>	
Rack travel in mm	: 6.75
Tolerance mm	: +- 0.20
Del. quantity	
cm ³ /1000 strokes	: 38.0
Tolerance	
cm ³ /1000 strokes	: +- 5.0
Check tolerance	
cm ³ /1000S.	: +- 8.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 1.30
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 1107
guide sleeve	
travel mm	: 6.75
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 1050
guide sleeve	
travel mm	: 6.00
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 586
guide sleeve	
travel mm	: 5.55
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 636
guide sleeve	
travel mm	: 6.00
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 500

guide sleeve	
travel mm	: 6.00
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 1260
guide sleeve	
travel mm	: 11.50
Tolerance mm	: +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1160
<hr/>	
Rack travel in mm	: 12.60
Tolerance mm	: +- 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1050
Aneroid pressure	
hPa	: 1250
Del. quantity	
cm ³ /1000 strokes	: 235.0
Tolerance	
cm ³ /1000 strokes	: +- 1.0
Check tolerance	
cm ³ /1000S.	: +- 4.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever	
position degree	: 51.0
tolerance degree	: +- 4.0
<hr/>	
control lever	
position degree	: 115.0
tolerance degree	: +- 4.0

RATED SPEED

rack travel mm	: 13.70
Rated speed rpm	: 1095
Tolerance 1/min	: +- 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1155
Tolerance 1/min	: +- 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 1300

LOW IDLE

control lever
position degree : 85.0
tolerance degree : ± 4.0

control lever
position degree : 20.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.75
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 8.80

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 13.60
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 13.60
Tolerance mm : ± 0.05

Rated speed rpm : 500
rack travel mm : 14.70
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 2000
rack travel mm : 14.70
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.00
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 225
rack travel mm : 10.70
Tolerance mm : ± 0.25

Pressure hPa : 595
rack travel mm : 12.20
Tolerance mm : ± 0.05

Pressure hPa : 1250
rack travel mm : 13.60
Tolerance mm : ± 0.05

Pressure hPa : 1450
rack travel mm : 13.95
Tolerance mm : ± 0.25

START CUT-OUT

Rated speed rpm : < 220

Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1250
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 234.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 144.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 13.70
Rated speed rpm : 1095
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 274.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.75
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 38.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.10.95
Test oil : ISO 4113

Combination No. : 0 402 646 644

Injection pump
Pump designation : FE6P120A320RS7319
EP type number : 0 412 626 914

Governor
Governor design. : RQV300...1400PA1124
Governor no. : 0 421 814 086

Cust. part No. : 866633 P03 5.10.95

Customer-spec. information
Customer : PENTA
Motor : TAMD 63
Power KW : 265.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 3.65
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.90
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 241.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

Del. quantity
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 5.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.24
Tolerance mm : +- 0.25

Rated speed rpm : 1456
guide sleeve
travel mm : 7.69
Tolerance mm : +- 0.25

Rated speed rpm : 1170
guide sleeve
travel mm : 5.67
Tolerance mm : +- 0.25

Rated speed rpm : 448
guide sleeve
travel mm : 2.83
Tolerance mm : +- 0.25

Rated speed rpm : 498
guide sleeve
travel mm : 3.20
Tolerance mm : +- 0.25

Rated speed rpm : 690
guide sleeve
travel mm : 3.68
Tolerance mm : +- 0.25

Rated speed rpm : 1638

guide sleeve
travel mm : 10.00
Tolerance mm : +- 0.25

Rated speed rpm : 1760
guide sleeve
travel mm : 11.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1640

Rack travel in mm : 9.00
Tolerance mm : +- 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 2000

Del. quantity
cm³/1000 strokes : 241.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

CONTROL LEVER

control lever
position degree : 54.0
tolerance degree : +- 4.0

control lever
position degree : 118.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.90
Rated speed rpm : 1440
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1570
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1650

LOW IDLE

control lever
position degree : 81.0
tolerance degree : +- 4.0

control lever
position degree : 17.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.40
Tolerance mm : +- 0.20

Rated speed rpm : 200

CRT mm min. : > 6.80

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 12.90
Tolerance mm : +- 0.05

Rated speed rpm : 1400
rack travel mm : 12.90
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 2000
rack travel mm : 13.30
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.20
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 1400
rack travel mm : 4.70

Tolerance mm : +- 0.20

Pressure hPa : 430
rack travel mm : 0.25
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2000
Rated speed rpm : 1400
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 84.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 1440
Tolerance 1/min : +- 5

LOW IDLE

Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.95
Test oil : ISO 4113

Combination No. : 0 402 646 744

Injection pump
Pump designation : FE6P120A320LS7872
EP type number : 0 412 626 912

Governor
Governor design. : RQV300...105GPA1259
Governor no. : 0 421 814 169

Cust. part No. : 04221532 KY 0165-17

Customer-spec. information

Customer : KHD
Motor : BF6M1015C
Power KW : 270.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Overflow quantity
min. L/h : 195
Tolerance L/h : ± 10.0

Test nozzle holder
assembly : 1 688 907 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 6- 3- 5- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance *NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.20
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 328.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 4.60
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.24
Tolerance mm : + 0.20

Rated speed rpm : 1098
guide sleeve
travel mm : 10.02
Tolerance mm : + 0.15

Rated speed rpm : 860
guide sleeve
travel mm : 5.59
Tolerance mm : + 0.25

Rated speed rpm : 560
guide sleeve
travel mm : 3.24
Tolerance mm : + 0.25

Rated speed rpm : 1154
guide sleeve
travel mm : 12.00
Tolerance mm : + 0.25

Rated speed rpm : 1230
guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1130

Rack travel in mm : 12.70
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 1700

Del. quantity
cm³/1000 strokes : 328.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 122.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.20
Rated speed rpm : 1085
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1125
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1280

LOW IDLE

control lever
position degree : 75.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.60
Tolerance mm : +- 0.10

Rated speed rpm : 200
CRT mm min. : > 6.10

Rated speed rpm : 345

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 13.20
Tolerance mm : +- 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1700
rack travel mm : 13.20
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 8.30
Tolerance mm : +- 0.20

Rated speed rpm : 400

Pressure hPa : 450
rack travel mm : 9.20
Tolerance mm : +- 0.10

Pressure hPa : 1000
rack travel mm : 12.00
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 400

Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 12.20
Rated speed rpm : 1085
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 8.30
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.60
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.10.95
Test oil : ISO 4113

Combination No. : 0 402 648 926

Injection pump
Pump designation : FE8P120A320LS7840
EP type number : 0 412 628 850

Governor
Governor design. : RQ300/1050PA972-11
Governor no. : 0 421 801 739

Cust. part No. : 0220747002

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 A
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Tolerance l/h : +- 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 5.25
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 20.50
Tolerance mm : +- 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.60
Tolerance mm : +- 0.10

Del. quantity
cm³/1000 strokes : 194.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

Rated speed rpm : 300

Rack travel in mm : 6.50
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.85
Tolerance mm : + 0.10

Rated speed rpm : 1104
guide sleeve
travel mm : 6.37
Tolerance mm : + 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 402
guide sleeve
travel mm : 3.68
Tolerance mm : + 0.10

Rated speed rpm : 540
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 1290

guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure

hPa : 1000

Del. quantity
cm³/1000 strokes : 194.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

CONTROL LEVER

control lever
position degree : 96.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.60
Rated speed rpm : 1098
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1200
Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 435
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 7.90

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.60
Tolerance mm : ± 0.10

Rated speed rpm : 800
rack travel mm : 12.60
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 450
Pressure hPa : 1000
rack travel mm : 12.60
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 450
rack travel mm : 11.10
Tolerance mm : ± 0.15

Rated speed rpm : 450

Pressure hPa : 380
rack travel mm : 11.70
Tolerance mm : ± 0.15

Pressure hPa : 500
rack travel mm : 12.35
Tolerance mm : ± 0.20

START CUT-OUT

Rated speed rpm : < 220

Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 195.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 138.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.60
Rated speed rpm : 1098
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000s. : 8.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.10.95
Test oil : ISO 4113
Combination No. : 0 402 648 927

Injection pump
Pump designation : FE8P120A320LS7840
EP type number : 0 412 628 850

Governor
Governor design. : RQV300...1050PA797
: -38
Governor no. : 0 421 814 084

Cust. part No. : 0220747102

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 A
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

L23

Test lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.60
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 194.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.50
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1100

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 194.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 122.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.60
Rated speed rpm : 1095
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1165
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 86.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 7.90

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.60
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 12.60
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Pressure hPa : 1000
rack travel mm : 12.60
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 450
rack travel mm : 11.10
Tolerance mm : +- 0.15

Pressure hPa : 380
rack travel mm : 11.75
Tolerance mm : +- 0.15

Pressure hPa : 500
rack travel mm : 12.35
Tolerance mm : +- 0.20

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 195.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 138.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 11.60
Rated speed rpm : 1095
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.04.94
Test oil : ISO 4113

Combination No. : 0 402 648 949

Injection pump
Pump designation : FE8P120A320LS7863
EP type number : 0 412 628 874

Governor
Governor design. : RQV300...950PA1050
 : -2K
Governor no. : 0 421 815 381

Cust. part No. : 0240740002

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Overflow quantity
min. L/h : 105
Tolerance L/h : +- 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

L26

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 5.05
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 14.05
Tolerance mm : +- 0.50

Firing order : 8- 7- 2- 6- 3
 : - 5- 4- 1

Phasing : 0-45-90-135-180
 : -225-270-315

Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 14.80
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 282.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.70
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.63
Tolerance mm : +- 0.25

Rated speed rpm : 1006
guide sleeve
travel mm : 7.50
Tolerance mm : +- 0.25

Rated speed rpm : 790
guide sleeve
travel mm : 5.00
Tolerance mm : +- 0.25

Rated speed rpm : 350
guide sleeve
travel mm : 2.56
Tolerance mm : +- 0.25

Rated speed rpm : 400

guide sleeve
travel mm : 3.10
Tolerance mm : +- 0.25

Rated speed rpm : 510
guide sleeve
travel mm : 3.52
Tolerance mm : +- 0.25

Rated speed rpm : 1192
guide sleeve
travel mm : 12.00
Tolerance mm : +- 0.25

Rated speed rpm : 1280
guide sleeve
travel mm : 13.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1160

Rack travel in mm : 13.80
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 282.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 114.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 13.80
Rated speed rpm : 995
olerance 1/min : +- 5

rack travel mm : 4.00

Rated speed rpm : 1095
 Tolerance 1/min : + 15

rack travel mm : 0.75
 Tolerance mm : +- 0.75
 Rated speed rpm : 1250

LOW IDLE

control lever
 position degree : 76.0
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.20
 Tolerance mm : +- 0.10

Rated speed rpm : 200
 CRT mm min. : > 7.30

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 950
 rack travel mm : 14.80
 Tolerance mm : +- 0.05

Rated speed rpm : 850
 rack travel mm : 15.00
 Tolerance mm : +- 0.10

Rated speed rpm : 750
 rack travel mm : 14.50
 Tolerance mm : +- 0.10

Rated speed rpm : 700
 rack travel mm : 14.20
 Tolerance mm : +- 0.10

Rated speed rpm : 650
 rack travel mm : 14.00
 Tolerance mm : +- 0.10

Rated speed rpm : 550
 rack travel mm : 13.95
 Tolerance mm : +- 0.10

Rated speed rpm : 400
 rack travel mm : 12.20
 Tolerance mm : +- 0.10

ANEROID/ALTITUDE
 COMPENSATOR TEST

SETTING

Rated speed rpm : 850
 Pressure hPa : 1200
 rack travel mm : 15.00
 Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 850
 rack travel mm : 7.95
 Tolerance mm : +- 0.15

Rated speed rpm : 850

Pressure hPa : 500
 rack travel mm : 12.20
 Tolerance mm : +- 0.10

Pressure hPa : 150
 rack travel mm : 8.80
 Tolerance mm : +- 0.20

START CUT-OUT

Rated speed rpm : < 220
 Check
 speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1200
 Rated speed rpm : 750
 Del. quantity
 cm³/1000 strokes : 277.0
 Tolerance
 cm³/1000 strokes : +- 2.0
 Check tolerance
 cm³/1000S. : +- 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

Aneroid pressure
 hPa : 1200
 Rated speed rpm : 550
 Del. quantity
 cm³/1000 strokes : 268.0

Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 500
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 196.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.80
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.80
Tolerance mm : ± 0.40
Del. quantity
cm³/1000 strokes : 130.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.07.95
Test oil : ISO 4113

Combination No. : 0 402 648 9530

Injection pump
Pump designation : FE8P120A320LS7859
EP type number : 0 412 628 869

Governor
Governor design. : RQV300...950PA1033
: -10
Governor no. : 0 421 814 040

Cust. part No. : 0230749702

Customer-spec. information
Customer : MB-NFZ
Motor : OM442 LA
Power KW : 320.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.00
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 254.0

Tolerance
 cm³/1000 strokes : ± 1.0

Check tolerance
 cm³/1000S. : ± 4.0

Spread
 Tolerance
 cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.10
 Tolerance mm : ± 0.30

Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : ± 3.0
 Check tolerance
 cm³/1000S. : ± 6.0

Spread
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.29
 Tolerance mm : ± 0.25

Rated speed rpm : 1009
 guide sleeve
 travel mm : 8.55
 Tolerance mm : ± 0.25

Rated speed rpm : 1570
 guide sleeve
 travel mm : 24.56
 Tolerance mm : ± 0.25

Rated speed rpm : 567
 guide sleeve
 travel mm : 4.66
 Tolerance mm : ± 0.25

Rated speed rpm : 617
 guide sleeve
 travel mm : 5.23
 Tolerance mm : ± 0.25

Rated speed rpm : 780
 guide sleeve
 travel mm : 6.31
 Tolerance mm : ± 0.25

Rated speed rpm : 1092
 guide sleeve
 travel mm : 10.00
 Tolerance mm : ± 0.25

Rated speed rpm : 1190
 guide sleeve
 travel mm : 11.50
 Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1035

Rack travel in mm : 14.00
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure
 hPa : 1000

Del. quantity
 cm³/1000 strokes : 254.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 4.0

Spread
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

CONTROL LEVER

control lever
 position degree : 121.0
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 14.00
 Rated speed rpm : 995
 Tolerance 1/min : ± 5

rack travel mm : 4.00
 Rated speed rpm : 1090
 Tolerance 1/min : ± 15

rack travel mm : 0.75
Tolerance mm : ± 0.75
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 86.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.10
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 443
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 9.00

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 15.00
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 15.00
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 15.00
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 9.10
Tolerance mm : ± 0.15

Rated speed rpm : 400

M04

Pressure hPa : 250
rack travel mm : 10.80
Tolerance mm : ± 0.10

Pressure hPa : 550
rack travel mm : 13.70
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 242.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 14.00
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 6.10
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 29.06.95
Test oil : ISO 4113

Combination No. : 0 402 678 803

Injection pump
Pump designation : FE8P120A320LS7801-1
EP type number : 0 412 628 818

Governor
Governor design. : RSV350...750FOA825
: -3
Governor no. : 0 421 833 260

Cust. part No. :

Customer-spec. information

Customer : MB-NFZ
Motor : OM442A
Power KW : 240.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

MD6

Test lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter : 1.5
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 15.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 234.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 5.30
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 234.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 78.0
tolerance degree : +- 4.0

Rated speed rpm : 750
rack travel mm : 14.15

Rated speed rpm : 779
Tolerance 1/min : +- 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : +- 0.55

Rated speed rpm : 751
rack travel mm : 14.15

Rated speed rpm : 780
Tolerance 1/min : +- 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : +- 0.55

Rated speed rpm : 752
rack travel mm : 14.15

Rated speed rpm : 781
Tolerance 1/min : +- 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : +- 0.55

Rated speed rpm : 753
rack travel mm : 14.15

Rated speed rpm : 782
Tolerance 1/min : +- 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : +- 0.55

Rated speed rpm : 754
rack travel mm : 14.15

Rated speed rpm : 783
Tolerance 1/min : +- 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : +- 0.55

Rated speed rpm : 755
rack travel mm : 14.15

Rated speed rpm : 784
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55

LOW IDLE

control lever
position degree : 64.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.30
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 380
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 15.00

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 15.15
Tolerance mm : + 0.05

Rated speed rpm : 600
rack travel mm : 15.15
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 236.0
Tolerance
cm³/1000 strokes : + 3.0

M08

Check tolerance
cm³/1000S. : +- 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 5.30
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.07.93
Test oil : ISO 4113
Combination No. : 0 402 678 817
Injection pump
Pump designation : FE8P120A320LS7856
EP type number : 0 412 628 867
Governor
Governor design. : RSV550...1050POA826
: -4
Governor no. : 0 421 833 383
Cust. part No. : 0230743202

Customer-spec. information
Customer : MB-NFZ
Motor : OM442LA
Power kW : 320.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Tolerance bar : +- 0.1
Overflow quantity
min. l/h : 110
Tolerance l/h : +- 10.0
Test nozzle holde
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 5.25
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 20.50
Tolerance mm : +- 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1080

Rack travel in mm : 13.75
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 225.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 550

Rack travel in mm : 4.10
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

governor spring
pre-tension
click setting x : 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 225.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Spread

Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 92.0
tolerance degree : +- 4.0

LOW IDLE

control lever
position degree : 72.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 550
rack travel mm : 4.10
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 570
Tolerance 1/min : +- 30

Rated speed rpm : 100

CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1080
rack travel mm : 13.75
Tolerance mm : +- 0.05

Rated speed rpm : 600
rack travel mm : 14.00
Tolerance mm : +- 0.10

Rated speed rpm : 940
rack travel mm : 14.00
Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 242.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 15.00
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 225.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 550
rack travel mm : 4.10
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.95
Test oil : ISO 4113

Combination No. : 0 402 736 890

Injection pump
Pump designation : FES6P120A120RS7314
EP type number : 0 412 726 901

Governor
Governor design. : RQV400...1250PA964
 : -32K
Governor no. : 0 421 815 486

Cust. part No. : 3282607

Customer-spec. information
Customer : CUMMINS
Motor : 6BTAA
Power KW : 158.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 140
Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

M12

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.70
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 12.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

*NW after s.o.d. : 5.50
Tolerance : ± 0.50

Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 14.60
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 155.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 400

Rack travel in mm : 6.50
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 5.0

Spread
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 400
guide sleeve
travel mm : 1.39
Tolerance mm : +- 0.20

Rated speed rpm : 1314
guide sleeve
travel mm : 7.65
Tolerance mm : +- 0.15

Rated speed rpm : 864
guide sleeve
travel mm : 4.76
Tolerance mm : +- 0.25

Rated speed rpm : 550

guide sleeve
travel mm : 3.33
Tolerance mm : +- 0.25

Rated speed rpm : 1700
guide sleeve
travel mm : 11.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1430

Rack travel in mm : 13.60
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 155.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 62.0
tolerance degree : +- 4.0

control lever
position degree : 119.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 13.60
Rated speed rpm : 1295
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1480
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 73.0
tolerance degree : ± 4.0

control lever
position degree : 16.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 400
rack travel mm : 6.50
Tolerance mm : ± 0.10

Rated speed rpm : 300

CRT mm min. : > 8.50

Rated speed rpm : 430

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 14.60
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 13.00
Tolerance mm : ± 0.10

Rated speed rpm : 400
rack travel mm : 12.45
Tolerance mm : ± 0.15

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1500
rack travel mm : 14.60
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : 11.20
Tolerance mm : ± 0.10

Rated speed rpm : 1250

Pressure hPa : 275
rack travel mm : 11.80
Tolerance mm : ± 0.20

Pressure hPa : 485
rack travel mm : 13.80
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 340
Check
speed 1/min : < 360

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 79.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 13.60
Rated speed rpm : 1295
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0

Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 6.50
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.95
Test oil : ISO 4113

Combination No. : 0 402 744 801

Injection pump
Pump designation : FES4P120A320RS7380
EP type number : 0 412 724 802

Governor
Governor design. : RQV275...1200PA1232K
Governor no. : 0 421 815 469

Cust. part No. : CCEP 5149A 66-237

Customer-spec. information

Customer : RVI
Motor : MIDR 04-02-26 B4
Power KW : 110.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Overflow quantity min. l/h : 95
Tolerance l/h : ± 10.0

Test nozzle holde assembly : 1 688 901 105

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.00
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 11.00
Tolerance mm : ± 0.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.30
Check tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Del. quantity cm³/1000 strokes : 236.0

Tolerance cm³/1000 strokes : ± 1.0

Check tolerance cm³/1000s. : ± 4.0

Speed

Tolerance
 cm³/1000 strokes : 5.0

 Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 325
 Rack travel in mm : -6.60
 Tolerance mm : ± 0.20
 Del. quantity
 cm³/1000 strokes : 40.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
 guide sleeve
 travel mm : 1.52
 Tolerance mm : ± 0.20

 Rated speed rpm : 1272
 guide sleeve
 travel mm : 9.31
 Tolerance mm : ± 0.15

 Rated speed rpm : 894
 guide sleeve
 travel mm : 6.60
 Tolerance mm : ± 0.25

 Rated speed rpm : 560
 guide sleeve
 travel mm : 4.01
 Tolerance mm : ± 0.25

 Rated speed rpm : 1650
 guide sleeve
 travel mm : 13.50
 Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1482

 Rack travel in mm : 11.70

M17

Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 236.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

CONTROL LEVER

control lever
 position degree : 299.0
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : -1.00
 Rated speed rpm : 1260
 Tolerance 1/min : ± 5

 rack travel mm : -8.70
 Rated speed rpm : 1385
 Tolerance 1/min : ± 15

 rack travel mm : -12.20
 Tolerance mm : ± 0.50
 Rated speed rpm : 1500

LOW IDLE

control lever
 position degree : 253.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 325
 rack travel mm : -6.60
 Tolerance mm : ± 0.10

 Rated speed rpm : 200

 CRT mm min. : < -4.60

Rated speed rpm : 390

TORQUE CONTROL

Rated speed rpm : 1200

Rated speed rpm : 700
rack travel mm : -1.15
Tolerance mm : +- 0.10

Rated speed rpm : 350
rack travel mm : -2.90
Tolerance mm : +- 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1200
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -4.20
Tolerance mm : +- 0.20

Rated speed rpm : 1200

Pressure hPa : 320
rack travel mm : -3.60
Tolerance mm : +- 0.20

Pressure hPa : 520
rack travel mm : -2.50
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 275
Check
speed 1/min : < 285

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 237.0
Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1260
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : -6.60
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 40.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.95
Test oil : ISO 4113
Combination No. : 0 402 746 995
Injection pump
Pump designation : FES6P120A32ORS7343
EP type number : 0 412 726 915
Governor
Governor design. : RQV300...1000PA1160K
Governor no. : 0 421 815 420
Cust. part No. : CCEP 5144A 66-232

Customer-spec. information
Customer : RVI
Motor : MIDR 062356 A/41
Power kW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 2 417 413 071
Inlet press. bar : 2.5
Test nozzle holde
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 089
Outside diameter : 3.0

M20

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0
Prestroke mm : 4.50
Tolerance mm : +- 0.05
test only : +- 0.10
Rack travel in mm : 11.00
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 350.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance cm ³ /1000S.	: 9.0
Del. quantity cm ³ /1000 strokes	: 33.0
Tolerance cm ³ /1000 strokes	: ± 2.5
Check tolerance cm ³ /1000S.	: ± 5.0
Spread Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve travel mm	: 1.32
Tolerance mm	: ± 0.25

Rated speed rpm	: 1103
guide sleeve travel mm	: 8.70
Tolerance mm	: ± 0.25

Rated speed rpm	: 823
guide sleeve travel mm	: 5.92
Tolerance mm	: ± 0.25

Rated speed rpm	: 405
guide sleeve travel mm	: 2.43
Tolerance mm	: ± 0.25

Rated speed rpm	: 455
guide sleeve travel mm	: 2.98
Tolerance mm	: ± 0.25

Rated speed rpm	: 550
guide sleeve travel mm	: 3.66
Tolerance mm	: ± 0.25

Rated speed rpm	: 1440
guide sleeve travel mm	: 13.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1300
Rack travel in mm	: 11.60
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Aneroid pressure hPa	: 1200
Del. quantity cm ³ /1000 strokes	: 350.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Spread Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever position degree	: 117.0
tolerance degree	: ± 4.0

RATED SPEED

rack travel mm	: -1.00
Rated speed rpm	: 1100
Tolerance 1/min	: ± 5

rack travel mm	: -8.60
Rated speed rpm	: 1210
Tolerance 1/min	: ± 15

rack travel mm	: -12.30
Tolerance mm	: ± 0.50
Rated speed rpm	: 1300

LOW IDLE

control lever position degree	: 72.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm	: 300
rack travel mm	: -7.80
Tolerance mm	: ± 0.20

Rated speed rpm : 200
CRT mm max. : < -6.80
Rated speed rpm : 390

TORQUE CONTROL

Rated speed rpm : 1000
Rated speed rpm : 600
rack travel mm : -0.45
Tolerance mm : +- 0.15
Rated speed rpm : 800
rack travel mm : 0.10
Tolerance mm : +- 0.15
Rated speed rpm : 350
rack travel mm : -1.70
Tolerance mm : +- 0.30

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1000
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1000
rack travel mm : -3.90
Tolerance mm : +- 0.30
Rated speed rpm : 1000
Pressure hPa : 320
rack travel mm : -2.80
Tolerance mm : +- 0.15
Pressure hPa : 520
rack travel mm : -1.70
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 225
Check
speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 381.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 245.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1100
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : +- 0.75
Del. quantity
cm³/1000 strokes : 185.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 33.0
Tolerance
cm³/1000 strokes : +- 2.5
Check tolerance
cm³/1000S. : +- 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 25.10.95
 Test oil : ISO 4113
 Combination No. : 0 401 876 794
 Injection pump
 Pump designation : FE6P120A320RS3206-3
 EP type number : 0 411 826 809
 Governor
 Governor design. : RSV250...1100P1A560
 : -2
 Governor no. : 0 421 833 471
 Cust. part No. : 865560-PO6 v. 12/94

Customer-spec. information
 Customer : PENTA
 Motor : TAD 730 P

TEST BENCH REQUIREMENTS

Inlet line : 3.1
 Test oil inlet
 temp. °C : 40
 Tolerance °C : ± 2.0
 Overflow valve : 1 417 413 025
 Inlet press. bar : 1.5
 Test nozzle holder
 assembly : 1 688 901 019
 Opening pressure
 bar : 208.5
 Tolerance bar : ± 1.5
 Test lines : 1 680 750 075
 Outside diameter : 8.0

x inside diameter : 2.5
 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
 Set equal delivery quant.
 per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
 Tolerance bar : ± 1.0
 Prestroke mm : 3.65
 Tolerance mm : ± 0.05
 test only : ± 0.10
 Rack travel in mm : 10.50
 Tolerance mm : ± 1.50
 Firing order : 1- 5- 3- 6- 2-
 : 4
 Phasing : 0-60-120-180-240
 : -300
 Tolerance : ± 0.30
 Check
 tolerance °NW : ± 0.75
 Start of delivery mark
 Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700
 Rack travel in mm : 9.45
 Tolerance mm : ± 0.05
 Del. quantity
 cm³/1000 strokes : 197.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 250

Rack travel in mm : 5.20
Tolerance mm : +- 0.20

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

governor spring
pre-tension
click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 197.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 119.0

M25

tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 8.45
Rated speed rpm : 1145
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1195
Tolerance 1/min : +- 15

rack travel mm : 0.85
Tolerance mm : +- 0.55
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 82.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 5.20
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 330
Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 9.45
Tolerance mm : +- 0.05

BREAKAWAY

Rack travel in mm : 8.45
Rated speed rpm : 1145
Tolerance 1/min : +- 5

LOW IDLE

Rated speed rpm : 250
rack travel mm : 5.20
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.10.95
Test oil : ISO 4113
Combination No. : 0 402 046 864
Injection pump
Pump designation : FES6P120A320RS3337
: -1
EP type number : 0 412 026 772
Governor
Governor design. : RQV300...1250PA1149
: -1K
Governor no. : 0 421 815 421
Cust. part No. : CCEP 5142A 66-219

Customer-spec. information

Customer : RVI
Motor : MIDR 06-02-26 W4
Power KW : 155.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 2 417 413 084
Inlet press. bar : 2.5
Test nozzle holde
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : +- 1.5
Test Lines : 1 680 750 089

M27

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0
Prestroke mm : 4.15
Tolerance mm : +- 0.05
test only : +- 0.10
Rack travel in mm : 13.00
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50
Start of delivery mark
°NW before FB : 0.40
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250
Del. quantity
cm³/1000 strokes : 202.5
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes :	5.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
<hr/>	
Del. quantity	
cm ³ /1000 strokes :	27.5
Tolerance	
cm ³ /1000 strokes :	+ - 2.0
Check tolerance	
cm ³ /1000S.	: + - 5.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes :	8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	300
guide sleeve	
travel mm :	1.31
Tolerance mm :	+ - 0.20
<hr/>	
Rated speed rpm :	1328
guide sleeve	
travel mm :	9.98
Tolerance mm :	+ - 0.15
<hr/>	
Rated speed rpm :	876
guide sleeve	
travel mm :	6.02
Tolerance mm :	+ - 0.25
<hr/>	
Rated speed rpm :	510
guide sleeve	
travel mm :	3.59
Tolerance mm :	+ - 0.25
<hr/>	
Rated speed rpm :	1600
guide sleeve	
travel mm :	13.50
Tolerance mm :	+ - 0.50

GUIDE SLEEVE POSITION

Rated speed rpm :	1400
<hr/>	
Rack travel in mm :	12.15
Tolerance mm :	+ - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1250
Aneroid pressure	
hPa :	1000
Del. quantity	
cm ³ /1000 strokes :	202.5
Tolerance	
cm ³ /1000 strokes :	+ - 1.0
Check tolerance	
cm ³ /1000S.	: + - 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes :	5.0
Check tolerance	
cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever	
position degree :	294.0
tolerance degree :	+ - 4.0

RATED SPEED

rack travel mm :	-1.00
Rated speed rpm :	1312
Tolerance 1/min :	+ - 5
<hr/>	
rack travel mm :	-9.20
Rated speed rpm :	1435
Tolerance 1/min :	+ - 15
<hr/>	
rack travel mm :	-12.65
Tolerance mm :	+ - 0.50
Rated speed rpm :	1550

LOW IDLE

control lever	
position degree :	245.0
tolerance degree :	+ - 4.0

Testing:

Rated speed rpm :	300
rack travel mm :	-6.40
Tolerance mm :	+ - 0.20
<hr/>	
Rated speed rpm :	200
<hr/>	
CRT mm max. :	< -5.60

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1250

Rated speed rpm : 850
rack travel mm : -2.15
Tolerance mm : +- 0.15

Rated speed rpm : 350
rack travel mm : -2.20
Tolerance mm : +- 0.30

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1000
Pressure hPa : 1000
rack travel mm : -1.40

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1000
rack travel mm : -3.70
Tolerance mm : +- 0.20

Rated speed rpm : 1000

Pressure hPa : 200
rack travel mm : -2.90
Tolerance mm : +- 0.10

Pressure hPa : 320
rack travel mm : -1.80
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 225
Check
speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 850
Del. quantity
cm³/1000 strokes : 141.0
Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 1250
Del. quantity
cm³/1000 strokes : 138.5
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1312
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 102.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 27.5
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.10.95
Test oil : ISO 4113

Combination No. : 0 402 046 874

Injection pump
Pump designation : FES6P120A720RS3360
EP type number : 0 412 026 785

Governor
Governor design. : RQV300...1100PA1254K
Governor no. : 0 421 815 485

Cust. part No. :

Customer-spec. information
Customer : IVECO-UNIC
Motor : 8360.46.4107
Power kW : 198.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 034

Inlet press. bar : 2.5

Overflow quantity min. l/h : 105
Tolerance l/h : ± 10.0

Test nozzle holder assembly : 1 688 901 105

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.15
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check tolerance °NW : ± 0.50

Start of delivery mark

Check tolerance °NW : ± 0.40

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.45
Tolerance mm : +- 0.05

Del. quantity
cm3/1000 strokes : 174.0

Tolerance
cm3/1000 strokes : +- 1.0

Check tolerance
cm3/1000S. : +- 4.0

Spreed
Tolerance
cm3/1000 strokes : 5.0

Check tolerance
cm3/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 7.50
Tolerance mm : +- 0.20
Del. quantity
cm3/1000 strokes : 25.0
Tolerance
cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000S. : +- 6.0
Spreed
Tolerance
cm3/1000 strokes : 2.0
Check tolerance
cm3/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
guide sleeve
travel mm : 2.83
Tolerance mm : +- 0.20

Rated speed rpm : 1185
guide sleeve
travel mm : 9.40
Tolerance mm : +- 0.15

Rated speed rpm : 680
guide sleeve
travel mm : 4.45
Tolerance mm : +- 0.25

Rated speed rpm : 300

guide sleeve
travel mm : 2.79
Tolerance mm : +- 0.25

Rated speed rpm : 1450
guide sleeve
travel mm : 13.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1305

Rack travel in mm : 12.45
Tolerance mm : +- 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200
Del. quantity
cm3/1000 strokes : 174.0
Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000S. : +- 4.0
Spreed
Tolerance
cm3/1000 strokes : 5.0
Check tolerance
cm3/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 117.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 12.40
Rated speed rpm : 1145
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1260
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 79.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.40
Tolerance mm : +- 0.10

Rated speed rpm : 225

CRT mm min. : > 7.90

Rated speed rpm : 330

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.45
Tolerance mm : +- 0.05

Rated speed rpm : 750
rack travel mm : 13.60
Tolerance mm : +- 0.15

Rated speed rpm : 500
rack travel mm : 12.80
Tolerance mm : +- 0.15

Rated speed rpm : 300
rack travel mm : 12.60
Tolerance mm : +- 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200
rack travel mm : 13.45
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 10.50
Tolerance mm : +- 0.10

Rated speed rpm : 1100

Pressure hPa : 640
rack travel mm : 12.75

Tolerance mm : +- 0.05

Pressure hPa : 340
rack travel mm : 11.30
Tolerance mm : +- 0.20

START CUT-OUT

Rated speed rpm : < 235
Check
speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 154.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 82.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 12.40
Rated speed rpm : 1145
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.20

Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 85.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 7.50
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.10.95
Test oil : ISO 4113
Combination No. : 0 402 066 708
Injection pump
Pump designation : PES6P120A120RS3358
EP type number : 0 412 026 784
Governor
Governor design. : RSV475...1150P2A619
Governor no. : 0 421 833 522

Cust. part No. : 3283019

Customer-spec. information
Customer : CDC
Motor : 6BTA-590 ELITE
Power KW : 136.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 2 417 413 086
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 103
Opening pressure
bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0
Prestroke mm : 2.85
Tolerance mm : +- 0.05
test only : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.50
Start of delivery blocking
°NW after s.o.d. : 6.75
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150
Rack travel in mm : 10.80
Tolerance mm : +- 0.05

Tolerance
 cm³/1000 strokes : ± 1.0

Check tolerance
 cm³/1000S. : ± 3.0

Spreed
 Tolerance
 cm³/1000 strokes : 4.0

Check tolerance
 cm³/1000S. : 7.5

Rated speed rpm : 475

Rack travel in mm : 5.60
 Tolerance mm : ± 0.30
 Del. quantity
 cm³/1000 strokes : 21.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE POSITION

governor spring
 pre-tension
 click setting x : 4.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
 Aneroid pressure
 hPa : 1500
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

CONTROL LEVER

NO7

control lever
 position degree : 105.0
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.80
 Rated speed rpm : 1195
 Tolerance 1/min : ± 5

rack travel mm : 4.00
 Rated speed rpm : 1290
 Tolerance 1/min : ± 15

rack travel mm : 0.85
 Tolerance mm : ± 0.55
 Rated speed rpm : 1400

LOW IDLE

control lever
 position degree : 87.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 475
 rack travel mm : 5.60
 Tolerance mm : ± 0.10

rack travel mm : 2.00
 Rated speed rpm : 570
 Tolerance 1/min : ± 30

TORQUE CONTROL

Rated speed rpm : 1150
 rack travel mm : 10.80
 Tolerance mm : ± 0.05

Rated speed rpm : 750
 rack travel mm : 10.80
 Tolerance mm : ± 0.10

ANEROID/ALTITUDE
 COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1500
 rack travel mm : 10.80
 Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.60
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 900
rack travel mm : 10.20
Tolerance mm : ± 0.20

Pressure hPa : 600
rack travel mm : 9.15
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 151.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 9.80
Rated speed rpm : 1195
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

N08

rack travel mm : 20.25
Tolerance mm : ± 0.75
Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 25.0

LOW IDLE

Rated speed rpm : 475
rack travel mm : 5.60
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.10.95
 Test oil : ISO 4113
 Combination No. : 0 402 646 623
 Injection pump
 Pump designation : FE6P120A32ORS7288
 : -10
 EP type number : 0 412 626 918
 Governor
 Governor design. : RQV250...900PA1069
 : -1
 Governor no. : 0 421 814 070
 Cust. part No. : 866141 P04 v. 10/94

Customer-spec. information
 Customer : PENTA
 Motor : TAD 1030P

TEST BENCH REQUIREMENTS

Inlet line : 3.1
 Vibration
 damper
 (RoBo diaphragm) : 4.2
 Test oil inlet
 temp. °C : 40
 Tolerance °C : +- 2.0
 Overflow valve : 1 457 413 010
 Inlet press. bar : 2.5
 Tolerance bar : +- 0.1
 Test nozzle holde
 assembly : 1 688 901 105
 Opening pressure
 bar : 208.5
 Tolerance bar : +- 1.5

N09

Test lines : 1 680 750 015
 Outside diameter : 6.0
 x inside diameter : 3.0
 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
 Set equal delivery quant.
 per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
 Tolerance bar : +- 1.0
 Prestroke mm : 3.45
 Tolerance mm : +- 0.05
 test only : +- 0.10
 Rack travel in mm : 10.50
 Tolerance mm : +- 1.50
 Firing order : 1- 5- 3- 6- 2-
 : 4
 Phasing : 0-60-120-180-240
 : -300
 Tolerance : +- 0.30
 Check
 tolerance °NW : +- 0.75
 Start of delivery mark
 Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700
 Rack travel in mm : 13.45
 Tolerance mm : +- 0.05
 Del. quantity
 cm³/1000 strokes : 290.0

<hr/>	
Tolerance	
cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: ± 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 6.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 250
guide sleeve	
travel mm	: 1.12
Tolerance mm	: ± 0.25

Rated speed rpm	: 949
guide sleeve	
travel mm	: 7.39
Tolerance mm	: ± 0.25

Rated speed rpm	: 657
guide sleeve	
travel mm	: 5.07
Tolerance mm	: ± 0.25

Rated speed rpm	: 315
guide sleeve	
travel mm	: 1.98
Tolerance mm	: ± 0.25

Rated speed rpm	: 365
guide sleeve	
travel mm	: 2.63
Tolerance mm	: ± 0.25

Rated speed rpm	: 420
guide sleeve	
travel mm	: 3.17
Tolerance mm	: ± 0.25

Rated speed rpm	: 1290
guide sleeve	
travel mm	: 11.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1150
-----------------	--------

Rack travel in mm	: 9.00
Tolerance mm	: ± 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	: 1500
Del. quantity	
cm ³ /1000 strokes	: 290.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 10.0

CONTROL LEVER

control lever	
position degree	: 119.0
tolerance degree	: ± 4.0

RATED SPEED

rack travel mm	: 12.45
Rated speed rpm	: 935
Tolerance 1/min	: ± 5

rack travel mm	: 4.00
Rated speed rpm	: 1075
Tolerance 1/min	: ± 15

rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1150

LOW IDLE

control lever	
position degree	: 80.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm	: 250
rack travel mm	: 7.70
Tolerance mm	: ± 0.30

Rated speed rpm	: 150
-----------------	-------

CRT mm min. : > 9.00

Rated speed rpm : 350

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.45
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.00
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 200
rack travel mm : 10.30
Tolerance mm : ± 0.10

Pressure hPa : 1090
rack travel mm : 13.15
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 176.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.45
Rated speed rpm : 935
Tolerance 1/min : ± 5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.10.95
Test oil : ISO 4113

Combination No. : 0 402 736 892

Injection pump
Pump designation : PES6P120A120RS7400
EP type number : 0 412 726 950

Governor
Governor design. : RQV350...1100PA1244
 : -1K
Governor no. : 0 421 815 488

Cust. part No. : 3282610

Customer-spec. information
Customer : CUMMINS
Motor : 6CTAA
Power KW : 221.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5
Tolerance L/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.30
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

°NW after s.o.d. : 11.00
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.60
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	: 209.0
<hr/>	
Tolerance cm ³ /1000 strokes	: +- 1.0
<hr/>	
Check tolerance cm ³ /1000S.	: +- 4.0
<hr/>	
Spreed Tolerance cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance cm ³ /1000S.	: 9.0
Rated speed rpm	: 350
Rack travel in mm	: 4.80
Tolerance mm	: +- 0.30
Del. quantity cm ³ /1000 strokes	: 25.0
Tolerance cm ³ /1000 strokes	: +- 3.0
Check tolerance cm ³ /1000S.	: +- 5.0
Spreed Tolerance cm ³ /1000 strokes	: 7.0
Check tolerance cm ³ /1000S.	: 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 350
guide sleeve travel mm	: 1.93
Tolerance mm	: +- 0.20
Rated speed rpm	: 1159
guide sleeve travel mm	: 10.28
Tolerance mm	: +- 0.15
Rated speed rpm	: 710
guide sleeve travel mm	: 5.80
Tolerance mm	: +- 0.25
Rated speed rpm	: 430
guide sleeve travel mm	: 4.33
Tolerance mm	: +- 0.25
Rated speed rpm	: 1380

guide sleeve travel mm	: 13.50
Tolerance mm	: +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1220
Rack travel in mm	: 13.60
Tolerance mm	: +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure hPa	: 1500
Del. quantity cm ³ /1000 strokes	: 209.0
Tolerance cm ³ /1000 strokes	: +- 1.0
Check tolerance cm ³ /1000S.	: +- 4.0
Spreed Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever position degree	: 66.0
tolerance degree	: +- 4.0
control lever position degree	: 120.0
tolerance degree	: +- 4.0

RATED SPEED

rack travel mm	: 13.60
Rated speed rpm	: 1145
Tolerance 1/min	: +- 5
rack travel mm	: 4.00
Rated speed rpm	: 1245
Tolerance 1/min	: +- 15
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : ± 4.0

control lever
position degree : 20.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 4.80
Tolerance mm : ± 0.10

Rated speed rpm : 250

CRT mm min. : > 8.10

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 14.60
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 14.05
Tolerance mm : ± 0.10

Rated speed rpm : 900
rack travel mm : 14.35
Tolerance mm : ± 0.15

Rated speed rpm : 600
rack travel mm : 13.95
Tolerance mm : ± 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1500
rack travel mm : 14.60
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 10.45
Tolerance mm : ± 0.20

Rated speed rpm : 1100

Pressure hPa : 880
rack travel mm : 13.20
Tolerance mm : ± 0.20

Pressure hPa : 240
rack travel mm : 11.20
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 280
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 198.0

Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 111.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 13.60
Rated speed rpm : 1145
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.00
Tolerance mm : ± 0.50

Del. quantity
cm³/1000 strokes : 255.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 4.80
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.10.95
Test oil : ISO 4113

Combination No. : 0 402 736 893

Injection pump
Pump designation : PES6P120A120RS7400
EP type number : 0 412 726 950

Governor
Governor design. : RQV350...1100PA1244
 : -2k
Governor no. : 0 421 815 489

Cust. part No. : 3282609

Customer-spec. information
Customer : CUMMINS
Motor : 6CTAA
Power KW : 206.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

N16

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.30
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

°NW after s.o.d. : 11.00
Tolerance : ± 0.50

Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 14.40
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 211.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 4.80
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.93
Tolerance mm : ± 0.20

Rated speed rpm : 1159
guide sleeve
travel mm : 10.28
Tolerance mm : ± 0.15

Rated speed rpm : 710
guide sleeve
travel mm : 5.79
Tolerance mm : ± 0.25

Rated speed rpm : 430
guide sleeve
travel mm : 4.33
Tolerance mm : ± 0.25

Rated speed rpm : 1380

guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1215
Rack travel in mm : 13.30
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 211.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 66.0
tolerance degree : ± 4.0

control lever
position degree : 120.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 13.40
Rated speed rpm : 1145
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1245
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 74.0
tolerance degree : ± 4.0

control lever
position degree : 20.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 4.80
Tolerance mm : ± 0.10

Rated speed rpm : 250

CRT mm min. : > 8.20

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 14.40
Tolerance mm : ± 0.05

Rated speed rpm : 650
rack travel mm : 13.90
Tolerance mm : ± 0.10

Rated speed rpm : 900
rack travel mm : 14.30
Tolerance mm : ± 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1050
Pressure hPa : 1500
rack travel mm : 14.40
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1050
rack travel mm : 10.40
Tolerance mm : ± 0.20

Rated speed rpm : 1050

Pressure hPa : 880
rack travel mm : 13.20
Tolerance mm : ± 0.20

Pressure hPa : 240
rack travel mm : 11.20
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 280
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 197.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 111.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1145
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.80
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 255.0
Tolerance
cm³/1000 strokes : ± 20.0

Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 4.80
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.10.95
 Test oil : ISO 4113
 Combination No. : 0 402 736 894
 Injection pump
 Pump designation : FES6P120A120RS7400
 EP type number : 0 412 726 950
 Governor
 Governor design. : RQV350...1200PA1261
 Governor no. : 0 421 815 495
 Cust. part No. : 3282766

Customer-spec. information
 Customer : CUMMINS
 Motor : 6CTAA
 Power KW : 191.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
 Test oil inlet
 temp. °C : 40
 Tolerance °C : ± 2.0
 Overflow valve : 2 417 413 086
 Inlet press. bar : 1.5
 Tolerance l/h : ± 20.0
 Test nozzle holde
 assembly : 1 688 901 101
 Opening pressure
 bar : 208.5
 Tolerance bar : ± 1.5
 Test lines : 1 680 750 008

N20

Outside diameter : 6.0
 x inside diameter : 2.0
 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
 Set equal delivery quant.
 per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
 Tolerance bar : ± 1.0
 Prestroke mm : 3.30
 Tolerance mm : ± 0.05
 test only : ± 0.10
 Rack travel in mm : 20.50
 Tolerance mm : ± 0.50
 Firing order : 1- 5- 3- 6- 2-
 : 4
 Phasing : 0-60-120-180-240
 : -300
 Tolerance : ± 0.30
 Check
 tolerance °NW : ± 0.50
 Start of delivery blocking
 °NW after s.o.d. : 11.00
 Tolerance : ± 0.50
 Check
 tolerance °NW : ± 0.75
 Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150
 Rack travel in mm : 13.60
 Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 190.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 4.80
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 5.0

Spreed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.93
Tolerance mm : +- 0.20

Rated speed rpm : 1258
guide sleeve
travel mm : 10.14
Tolerance mm : +- 0.15

Rated speed rpm : 766
guide sleeve
travel mm : 5.91
Tolerance mm : +- 0.25

Rated speed rpm : 450
guide sleeve
travel mm : 4.49
Tolerance mm : +- 0.25

Rated speed rpm : 1520

guide sleeve
travel mm : 13.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1350

Rack travel in mm : 12.60
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 65.0
tolerance degree : +- 4.0

control lever
position degree : 119.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 12.60
Rated speed rpm : 1245
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1355
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 76.0
tolerance degree : ± 4.0

control lever
position degree : 22.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 4.80
Tolerance mm : ± 0.10

Rated speed rpm : 250
CRT mm min. : > 9.20

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 13.60
Tolerance mm : ± 0.05

Rated speed rpm : 600
rack travel mm : 13.10
Tolerance mm : ± 0.10

Rated speed rpm : 750
rack travel mm : 13.70
Tolerance mm : ± 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
Pressure hPa : 1500
rack travel mm : 13.60
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1150
rack travel mm : 10.40
Tolerance mm : ± 0.20

Rated speed rpm : 1150

Pressure hPa : 880
rack travel mm : 13.20
Tolerance mm : ± 0.20

N22

Pressure hPa : 240
rack travel mm : 11.20
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 280
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 176.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 111.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.60
Rated speed rpm : 1245
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.10
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 255.0
Tolerance
cm³/1000 strokes : ± 20.0

Check tolerance
cm³/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 4.80
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 5.0
Speed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 11.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.10.95
Test oil : ISO 4113

Combination No. : 0 403 466 156

Injection pump
Pump designation : PES6MW100/120RS1238
EP type number : 0 413 406 237

Governor
Governor design. : RSV450...1100MW2A374
Governor no. : 0 420 085 257

Cust. part No. : 3926881

Customer-spec. information
Customer : CDC
Motor : 6 CT-83D
Power KW : 160.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

N24

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : +- 1.0

Prestroke mm : 2.80
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : +- 0.50

Check
tolerance °NW : +- 0.75

Start of delivery blocking

°NW after s.o.d. : 8.00

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.90
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 143.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 4.0

Check tolerance
 cm³/1000S. : 7.5

Rated speed rpm : 450

Rack travel in mm : 5.30
 Tolerance mm : +- 0.30
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : +- 2.0
 Check tolerance
 cm³/1000S. : +- 4.5

Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
 Tolerance mm : +- 0.35

governor spring
 pre-tension
 click setting x : 4.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
 Aneroid pressure
 hPa : 1100

Del. quantity
 cm³/1000 strokes : 143.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

CONTROL LEVER

control lever
 position degree : 104.0
 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 10.90
 Rated speed rpm : 1150
 Tolerance 1/min : +- 5

rack travel mm : 4.00
 Rated speed rpm : 1270
 Tolerance 1/min : +- 15

rack travel mm : 0.85
 Tolerance mm : +- 0.55
 Rated speed rpm : 1400

rack travel mm : 4.00
 Rated speed rpm : 1225

LOW IDLE

control lever
 position degree : 82.0
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 450
 rack travel mm : 5.30
 Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1100
 rack travel mm : 11.90
 Tolerance mm : +- 0.05

Rated speed rpm : 750
 rack travel mm : 12.40
 Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1100
rack travel mm : 12.45
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.50
Tolerance mm : +- 0.05

Rated speed rpm : 500

Pressure hPa : 850
rack travel mm : 12.00
Tolerance mm : +- 0.20

Pressure hPa : 625
rack travel mm : 11.00
Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1100
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 154.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 115.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 1150
Tolerance 1/min : +- 5

N26

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : +- 1.00
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 13.0

LOW IDLE

Rated speed rpm : 450
rack travel mm : 5.30
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet